STATE OF CALIFORNIA
DEPARTMENT OF REHABILITATION

BUSINESS ENTERPRISE PROGRAM

TRAINING MANUAL FOR FOOD SERVICE

August, 1970

FORWARD

This manual has been prepared to assist the operator trainee. Only by careful analysis of the contents and giving the instructor your undivided attention can good results be achieved. Material in this manual will cover the phases of management with emphasis on food and labor cost controls which are the two principal costs in the food business. During the training course we will also use textbooks, recordings, films and lectures from persons highly skilled in their particular field.

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MANAGEMENT

Management is an intangible, unseen force. One recognizes its presence by the results of its efforts. When management is good, the results are orderliness, informed employees, buoyant spirit and adequate work production. Poor management creates the opposite results.

The basic problems in the food business are purchasing, receiving, storage, preparation and service. The extent to which these functions are carried out wisely and efficiently measures the success or failure of each operation.

Managers must constantly strive to improve their locations by introducing new items, improving products wherever possible, keeping cost to customers on a competitive basis with surrounding food establishments and providing the best service possible. Management must keep abreast of changing conditions and use foresight and imagination to achieve success. The problems involved in operating a business are numerous; however, the rewards are numerous also. One not only benefits financially but achieves personal growth and advancement.

It is most important that a manager be familiar with every phase of operation in his location. While he may not be required to perform specific tasks personally, he must know how they are accomplished. He must always strive for efficiency. This could never be accomplished if he is not thoroughly familiar with the tasks being performed.

A manager must have technical knowledge concerning the equipment being used in his location such as the correct operating instructions, temperatures which must be maintained and correct sanitizing procedures. He must be able

to plan a well-balanced menu and see that food preparation is carried out efficiently and in such a manner as to please the customer, both in taste and eye appeal.

He must know the standards of purchasing, receiving and storage and constantly check to see that these standards are maintained.

He must be able to settle disputes arising from rivalries or misunderstandings between service and preparation personnel. Since employees are quite apt to blame each other for various shortcomings in food or service, a manager must be able to pinpoint the problems.

Waste of time and money can result from poor cooperation of personnel. A good manager keeps his employees well informed as to their duties and what is expected of them. The most effective way to do this is to provide each employee with a duty sheet which lists the duties of his position. Strive to create happy, cooperative personnel who take pride in their work. Treat them in a courteous manner, keeping lines of communication open between you and your employees. Many good ideas come from personnel. You should listen to their suggestions, weigh them carefully, then decide if the idea is applicable to your location.

Always maintain control of your employees. Many times an operator tends to delegate too much authority to a key employee and literally loses control of his operation. You must have a well-trained assistant to assume as many of your duties as possible if the situation should arise such as illness or vacation; however, it should always be clear to your employees that you make the final decisions. You may delegate responsibilities to key personnel but you should never take for granted that they will not need your direction. Key personnel should be studied for shortcomings and corrected by you whenever necessary.

When you correct an employee it must be done in privacy and in a business-like manner. Give impartial hearings to each employee when friction arises between two or more of your personnel. Most grievances can be solved satisfactorily if the manager has enough discernment to find the cause and make the necessary changes.

Managers must know, in a general way, the local and state regulations regarding the sale of food and beverages. You must also be familiar with tax laws. Both sales tax and withholding tax for your employees change occasionally. Ask your accountant to keep you briefed on these important items. Your B.E.O. can be a helpful source of information. Regard him as a friend who is eager to help you help yourself become a successful operator. Most of the established Business Enterprise Program operators are happy to extend a helping hand to you and you should do the same for them.

When you are certified and are selected for a location, you may be eligible for financial assistance in purchasing your initial stock. This information may be obtained from your B.E.O. Do not solicit your fellow operators for a loan to open your location.

The sales volume is the barometer of every business. If sales are inadequate, it usually is due to one or more of the following reasons:

1. Prices are out of line with competition. Canvass your area and know what prices your competitor is charging and the quality and quantity of food served for these prices.
2. Menus are monotonous. This can result from poor planning, lack of imagination or indifference.
3. Food is of poor quality. Many reasons may contribute to this situation such as incompetent staff, purchasing low quality food, improper storage or preparation of food, cooking the food and

permitting it to stand for long periods of time at room temperature or on a steam table.

4. Service is faulty or slow. This may result from the lack of properly trained service staff, inadequate equipment, poor cooperation of personnel or poor layout of kitchen or serving areas. Keep areas free of bottlenecks to insure a smooth running operation.

5. Unsanitary conditions. Lack of cleanliness is usually the result of negligence, poor training or inadequate cleaning schedules.

6. The dining room is unattractive and noisy. Keep the dining room light and cheerful. This can be accomplished with a good lighting system and attractive colors of paint. Local artist associations may be contacted for displaying their paintings. You must first get permission from the building manager and the Business Enterprise Program. If obtainable, the paintings add charm and sometimes an arrangement is made in which the operator receives a commission on any paintings sold while on exhibit in his location. Noise can be reduced to a minimum in the dining room if the service staff are trained to handle china and silverware carefully.

7. The location is poor. Since operators are not consulted regarding the location of food service operations, there is little one can do to improve the location. This should be given careful consideration before you bid on a location. When the building personnel are located in offices a great distance from the food establishment, many problems are created. The operator may have to set up temporary stands at break time in a room or hallway closer to the potential customers. This service must always be approved by the building manager or the Business Enterprise Program. It will usually

increase gross sales but will also raise labor costs.

Common Mistakes which may Result in Business Failures:

1. Going into business with little or no experience and without first acquiring a working knowledge of your particular field.
2. Starting a business by not budgeting accordingly, with insufficient capital and over-borrowing without planning a method of repayment.
3. Underestimating the length of time it will take to build up your business. It takes weeks, months and sometimes years to build up your business to its maximum. Don't be discouraged and "give up the ship" in its early, unprofitable stage. Use foresight and allow for setbacks and unexpected expenses which are inevitable in starting a new location. Quite often, the capital used to open a location will cause financial problems in your home. You and your family must be willing to make personal sacrifices during this time. You should take only a minimal profit from the business until a firm financial position has been established. An operator will spend many extra hours working in a new location When planning to open a location, give careful consideration to the expenses involved and the problems which will be created in your personal life. You may have to move to a new community to obtain a location as food service operations are situated throughout California; however, Sacramento, San Francisco, Los Angeles and San Diego contain the largest number of locations.
4. Plunging into things without first testing ideas on a small scale. Avoid overstocking, expanding too rapidly and buying too much on credit.

5. Underpricing or overpricing the products being sold. Keep in line with your competitors. Stay informed on what local competitors are doing. Keep complete and accurate records on food and labor costs so that you don't drift into trouble without realizing it.

6. Extending credit too freely to customers. Business Enterprise Program regulations prohibit issuing credit to your customers; however, occasionally we must extend some courtesy to our customers by allowing them to purchase a meal or item "on the cuff" with the understanding it is to be paid back the following day. Be extremely careful when cashing checks for customers. Bad checks can reduce your profits and require considerable bookkeeping time. Always obtain proper identification and keep records on all checks cashed.

7. Behaving in a manner which is socially unacceptable, either during business or after business hours. Some people believe their behavior after business hours should have no effect on their business. This is untrue. Since blind people are unaware of who may be watching them in public, they must always conduct themselves in a manner which is socially acceptable. Since an operator is constantly in contact with the public, he must have or develop a sincere liking and understanding of people. Strive to improve your personal habits, develop a pleasing personality and healthy frame of mind, be a good citizen, work hard and success will surely come to you.

PERSONAL HYGIENE

Hygiene is the science that deals with sanitation to preserve health. In general, we think of personal hygiene as cleanliness, grooming and the personal habits of an individual. Sanitation is interpreted generally as the principles of hygiene and cleanliness.

Cleanliness is the most important factor in operating a successful food service location. An operator should require his employees to observe rules of cleanliness and be able to show himself as a good example. He should dress immaculately and practice good personal hygiene habits. His location should be kept as sanitary as possible.

When hiring personnel, give consideration to the applicant's appearance as well as to his job capabilities. A brief orientation regarding the operator's personal hygiene requirements should be presented to each employee when he is hired. This should include the type of clothing the employee must wear and any personal grooming habits the operator desires his employees to maintain.

Desirable Personal Hygiene Habits

1. All employees should wear fresh, clean, well-fitting, comfortable and washable clothing. The same general type of clothing should be worn to present cleanliness and uniformity to the customer. All clothing should be changed daily.
2. Shoes should be comfortable, well-fitting, low-heeled with nonskid soles and enclose both heel and toe. They should always be clean, polished and in good repair.

3. Aprons should give full protection and be made of noncombustible material when worn near a range.

4. Control of the hair is mandatory when handling food Women should wear hair nets or headbands and men should wear caps.

5. Avoid hiring women who wear excessive makeup. A little makeup and clear nail polish should be allowed.

6. Avoid wearing rings, other than wedding rings, dangling jewelry, loose pins or hairpins when preparing food.

7. Female employees give a trim appearance when they wear foundation garments which support firmly Undergarments must be clean and women's slips should be opaque. Hose should be worn for a more professional appearance.

8. Men should wear bow ties as they will not dangle in the food.

9 Men should shave each morning to present a much neater and cleaner appearance.

Desirable Employee Habits

1. Good posture creates the impression of health and well-being. Customers like to see vigorous and alert personnel as it presents an air of service which enhances customer relations. An employee who slouches or leans on the counter gives the customer the "I don't care if you eat here or not" attitude.

2. Since perspiration odors are particularly offensive to customers being served, it is important to take every precaution to remove any possibility of body odor. Therefore, a bath of shower once a day is imperative. The use of underarm deodorant or anti-perspirant is an additional safeguard against perspiration odor.

3. Shampoo frequently to keep the hair clean and free of unsightly dandruff. Once a week is enough for some people while others may require more frequent shampooing. No matter what length the hair is worn, it should be neat and clean.
4. Wax gathers in the ears but can be avoided by daily cleaning.
5. Everyone should practice oral hygiene. Keep the teeth clean and in good repair. A dental checkup every six months is recommended. Some people have a problem with bad breath and should take extra precautions. Bad breath is offensive to customers and fellow employees.
6. Keep the fingernails clean and well manicured. Hands should always be washed with soap and water before commencing or returning to work or after handling trays, dirty dishes and orders and coming in from the outside. Hands should also be washed after taking care of personal needs such as visits to the rest room, using a tissue to wipe the nose or eyes, grooming the hair or applying makeup. An excerpt from the California Health and Safety Code #28548-28550 states "handwashing facilities, in good repair, shall be provided for employees within or adjacent to toilet rooms - equipped with hot and cold water, soap and single service sanitary towels or hot air blowers." The Code states that no person shall resume work in a restaurant after visiting the toilet without first washing his hands. A room or enclosure separated from toilets or food storage or preparation area shall be provided for employees to change their outer garments. An employee may not change clothes in any other area on the premises. Toilets, lavatories and change rooms shall be maintained in sanitary condition.

7. Coughs and sneezes should be covered with a disposable tissue which should be disposed of after use. Remember hands should be washed after using tissues.
8. Personal grooming should be done in the rest rooms only. Makeup, hair and nail filings are not desirable in food products.
9. If an operator or employee wears an artificial eye, great care should be taken to clean it frequently. During the day, wash away unsightly matter due to irritation. Care should also be taken to keep foreign matter from the corner of the eyes.
10. Take proper care of the face and remove unsightly blackheads and/or whiteheads. Sores appearing on the face or on the exposed hands or arms should be covered.
11. A visually handicapped operator or employee should guard against getting his face too close to food either in serving or in preparation.
12. Employees should get in the habit of applying first aid to any injury, no matter how slight.
13. Evidence of a physical examination including a negative chest x-ray should be insisted upon by the operator for each employee before he is hired. You don't want disease carriers in your establishment. Medical examinations are recommended yearly.
14. All employees should use tongs, forks or some other instrument other than the hands to pick up ice cubes, butter pats, bread and other food items. Glasses should be picked up by their bases, cups and silverware by their handles and plates and bowls by their rims only.
15. Observe the "no smoking" regulations at all times while handling or preparing foods, beverages or while cashiering.

Guard Against the Following Habits

1. Snuffling
2. Running the fingers through the hair
3. Rubbing and picking the nose
4. Scratching in public
5. Rubbing the eyes
6. Picking the ears
7. Hands around the mouth
8. Smoking
9. Gum chewing

Operators and their employees should look sharp and feel their best. Personal appearance is a sign of personal habits. A clean, neat appearing food handler is a good advertisement for any food service establishment. Good personal habits are essential and easy to practice. Remember, customers observe your personal habits.

SUMMARY

Body Care

1. Bathe or shower daily.
2. Wash hands and arms with soap and warm water before starting work, after coughing or sneezing and after each visit to the toilet.
3. Keep fingernails short and clean. Don't use fingernail polish.
4. Wear clean clothing, comfortable shoes and protective hair covering.

Personal Habits

1. Cover coughs or sneezes with disposable tissues.
2. Use scoops, tongs, forks, spatulas, etc., to pick up ice, butter patties, pies, cakes, rolls, donuts and other food items.
3. Pick up clean or used glasses by their base.
4. Pick up silverware and cups by handles only.
5. Observe the "No Smoking" rule while handling or preparing food or drinks.

Personal Appearance

1. Personal appearance is a sign of personal habits.
2. A clean, neat appearing food handler is a good advertisement for any food establishment.
3. Good personal habits are essential and easy to practice.

SAFETY

Receiving and Storing Operations

1. When opening boxes, crates, etc., remove the nails. Don't bend them down.
2. Always store heavy materials on bottom shelves, medium weight next above, light weight on top. Don't put things on locker tops or other high storage places.
3. Keep food containers covered except when in actual use.
4. When opening anything, keep at a distance from food containers which might catch pieces of wire, splinters, bits of paper wrapping, straw, dirt, etc., and pass them on to guests.
5. Get rid of all dirt, grease and trash promptly to reduce fire hazard. Eliminate hiding-breeding places for rats and roaches.
6. Be sure the light bulbs are guarded. Don't store any material within 18 inches of any bulb.
7. Use ladders, not boxes, crates or chairs, to get things from high shelves. See that the ladder is safe. Avoid losing your balance by overreaching.
8. Avoid lifting or carrying too heavy objects. When you lift a heavy object, keep your back straight and lift with your legs. Don't carry bulky objects too big for you to see over or around.

Food Preparation Operations

1. Use only dry cloths and towels to handle hot cooking utensils.
2. Lift edge of cover on side of pot away from you first so that steam will escape that way, not blast into your face.

3. Keep stove top and hood free from grease to avoid dangerous fires.
4. Keep handles of pans away from stove and out of the aisle so that utensils won't be brushed off stove. Take care that handle is not near an open flame.
5. Get help in moving heavy, hot containers. Be sure work area is clear when swinging them out.
6. When drawing hot water or coffee from an urn, turn spigot slowly to avoid rush-and-splash. Check that all valves and spigots are in proper order before filling the urn.
7. Keep oven doors closed and out of the aisle when not in use.
8. Ventilate a gas oven several minutes before lighting. Strike matches away from clothing or flammable matter. Place match at gas jet before turning on the gas. Open gas gradually to avoid blowing out the match.
9. Don't clean oven or stove until it has cooled.
10. Protect food from foreign substances. If you break an article near open food containers, report this immediately to your supervisor so that the food can be taken out of service.
11. Avoid overfilling containers with hot liquids or foods. Make sure edges are free from foods. Warn service people of hot dishes.

Drawers and Doors

1. Be careful in closing drawers. They have a trick of pinching fingers and hands. Keep them closed and out of the way.
2. Open and close doors by handles or knobs to avoid crushed fingers.

Handling Knives

1. Don't daydream with a knife in your hand. Pay attention to what you are doing.

2. Cut away from your body and keep away from fellow workers.
3. When drying a knife, keep the sharp edge away from you.
4. Use a cutting board, never a knife edge against metal.
5. Keep all knives in proper storage place when not in use.
6. Don't leave knives in the sink or in water or any place where they can't be seen easily.
7. A sharp knife is safer than a dull one. It cuts more easily, takes less pressure and has less danger of slippage. The proper way to sharpen knives should be decided by the kitchen supervisor.
8. After honing knives, place on the steel to remove burrs. Then wipe knives with a cloth or towel to remove any additional particles that may be present.
9. If a knife falls, get out of the way. Don't try to grab it.
10. Use the knife for the operation for which it is intended. No knife or cleaver is a can opener. Don't try to use it that way.
11. Be careful in reaching for knives, forks or other sharp objects. Pick them up by their handles, not by the blades or tines.

Machines Used for Food Preparation

1. Never use any machine you haven't been trained to use. Be sure that all safety devices are in place before using.
2. Pull plug or throw switch to "off" position before cleaning or adjusting any machines. Keep fingers, hands, spoons, etc., away from moving parts. Wait until machine stops before moving food.
3. Check all switches on electrical appliances to see that they are "off" before plugging into the outlet.
4. Particular care must be exercised in cleaning the slicing machine. To clean the machine: (1) Pull the plug; (2) Turn the gauge to zero.

This position masks the cutting edge of the cutting blade. (3) Don't touch the edge of the cutting blade. (4) Clean the blade from the center out. (5) While cleaning one side of the blade, hold the cloth in the other hand to use in rotating the blade.

5. Don't start a mixing machine until the bowl or kettle is locked in place and the attachment securely fastened. Do not operate the grinder and the mixer at the same time. Always read the instructions if posted on or near the machine.
6. Always use the proper tool for pushing food into a grinder. Tampers or pestles are made of special wood or metal. Tamping foods in the grinder with other tools or instruments is dangerous. Wooden handles may splinter and mix with the food. Metals may damage the equipment or you.

China and Glassware

1. Use care in handling glasses and dishes.
2. Use pan and broom to sweep up large pieces of broken glass and china. Use a dampened paper towel or cloth to pick up slivers. Put broken glass or china in a container. Do not place broken glass in a container where anyone might put his hands to retrieve a lost item.
3. Drinking glasses or other glassware or china that is chipped or cracked should be discarded.
4. Glasses and metal pots do not mix. Keep glass and china out of the pot sink.
5. If you suspect that there is broken glass or dishware in soapy water, drain the water first, then remove pieces carefully with a cloth.
6. Don't use a glass for an ice scoop. It may break in your hand or may leave pieces of glass in the ice. Do not dry glasses by

forcing a towel inside the glass. This may also result in injury.

Floors

1. Keep floors clean and dry. If you spill anything or see spilled liquids or foods, wipe them up immediately. In cleaning, wet mop first, then rinse and dry mop if possible, doing one small area at a time. If grease has been spilled on the floor, wipe up grease and brush salt over the area to absorb any grease which may remain on the floor until a thorough cleaning can be done.
2. Tile floors may be slippery when weather is humid and muggy. Be careful at such times to avoid falls.
3. Walk, don't run or slide across the floor.
4. Never leave utensils on the floor. Someone is sure to trip over them.

Refuse Disposal

1. Place food scraps in the proper containers.
2. Don't overflow containers.
3. Don't stack refuse containers.
4. Report broken or defective refuse containers.

Safe Clothing

1. Wear a safe shoe with closed toe for added protection; keep neatly laced to prevent tripping over untied shoelaces. A sensible heel provides balance; good strong support provides comfort. Heels kept in good repair prevent slipping.
2. Do not wear excessively loose clothing. Sleeves, ties and aprons may easily get caught when working with or near grinders, mixers and other moving machinery.

3. Keep uniforms free of pins and gadgets which might drop in food or cause scratches.

Fire Safety

1. Smoke only in designated areas.
2. Immediately report any fire, no matter how small, so that the fire department may be called.
3. Know where the fire extinguishers are located and how each should be used. If you find an extinguisher partially used or one with its seal broken, report it to your supervisor immediately.
4. Know the fire exits and how to use them and be prepared to show them to guests should need arise.
5. Know your station and duties on the organization's "Fire Instructions".
6. Keep fire doors, fire exits and fire stairs clear of material and equipment. Use only in the event of emergency or fire drill.

SUMMARY

1. Keep floors clean and dry.
2. Walk, don't run.
3. Keep floors in good repair.
4. Repair sharp or jagged edges on walls and equipment.
5. Never stand on chairs or equipment; use safe ladders.
6. Locate heavier and bulkier materials on lower shelves.
7. Keep aisle ways free of obstructions.
8. Use dry cloths, mitts, etc., for handling hot utensils.
9. Close all doors and drawers immediately after use.
10. Return working utensils to their proper place immediately after us.
11. Avoid having water near hot grease.
12. Remove broken glass particles with a broom; do not pick up by hand.
13. Unplug all electrical applicances before cleaning.
14. Keep knives sharp. Pay attention while using sharp utensils and learn to cup properly.
15. Handle glassware properly; inspect for chips, cracks, etc.
16. Never carry excessive quantities of plates, cups, glasses, etc.
17. Avoid overloading bus boxes and never stack them when full.
18. Keep fire extinguishers readily available for grease fires.

Check List for Cleaning and Appearance of Dining Area

1. Tables and chairs should be cleaned several times each day by using a solution of a neutral all purpose detergent, mixed according to the manufacturers directions, and two cleaning towels. Use a separate towel to clean tabletops. Never clean the chairs with the same towel you are using on the tables. In addition to the daily cleaning of the tabletops and chair seats, a thorough cleaning must be given to the entire table, chairs and legs on a frequent schedule. If a thorough cleaning is given to a portion of the tables and the chairs around the tables each day, it will eliminate trying to clean the whole dining area in one day. If a dining area has 100 tables in it, it is much easier to clean ten tables per day than to attempt to clean all 100 tables in a day. The following procedure should be used:
   a. To clean the chairs, start at the bottom of the legs, working up to the seat and finally to the back, making certain to clean all the cracks where food particles and dirt can collect.
   b. Tabletops should be cleared of any movable objects. The legs or stand should be wiped; the edge and underside of the top; then the top, starting from the outside edge and working toward the center. If necessary, use your hands to ascertain if the table is clean and free from dried spillage.

2. Wipe all salt and pepper shakers and check to make certain they are full either by looking or removing the lid and feeling. Return them to the table.
3. Empty the ashes into a container, being very careful not to stand near the customers. If customers are seated at the table, replace dirty ash tray with a clean one and move to an area away from the customers before dumping the ashes. Paper napkins are good for removing most of the ashes from the tray, then wipe with a damp cloth. For a thorough cleaning, ash trays may be washed in the dishwashing machine.
4. Floors in the serving area should be mopped after each break. Spillage should be mopped up as soon as it occurs to keep the area clean and to prevent accidents.
5. A sighted person should make certain that the walls and ceilings are clean.
6. Light fixtures should be clean, in good repair and in working condition.
7. Air vents in the air conditioning units should be maintained to make certain that lint and dust do not collect on them.
8. Bus stands should be checked frequently to wipe up spillage. Dish tubs should be emptied frequently. Dish ports should be checked and kept free from spillage.
9. Bus carts should be wiped frequently. The casters should be cleaned and oiled on a regular cleaning schedule.
10. Water stations should be wiped clean frequently and the drains washed thoroughly daily.

11. Refuse containers should be kept clean both inside and outside. One person should be responsible for keeping containers clean.

12. The cashier should be responsible for keeping that area clean and neatly arranged.

13. Exits and entrances should be kept clean and the area should be free from obstacles.

14. Windows, window sills and blinds or drapes should be kept clean and free from collected dust.

15. Condiment stations should be kept clean and neatly arranged and free from spills. The jars or containers should be kept full and wiped frequently.

16. If seasonal type decorations are used, they should always be clean and attractive. Remove any soiled or damaged decorations.

Check List for Cleaning and Checking the Serving Area

1. The steam table must be thoroughly cleaned at the end of each day so that it can be quickly wiped off and set up in the morning. Make certain that the glass sneeze guards are clean and free from water spots. The table must be maintained all during the serving period. Spills should be wiped up before they have a chance to become encrusted or burned on. This facilitates easier cleaning and also keeps the table neater.

2. Display units, such as for salads, pies, sandwiches, doughnuts and rolls, must be kept free from spills, water spots, dust, etc. These must be maintained at frequent intervals. Make certain food and dust particles are wiped from the glass sneeze guards and check for accumulated food particles in cracks.

3. Refrigerated display units must be thoroughly cleaned inside and outside. If there are glass doors, they should be kept free from fingerprints and spillage. Shelves and walls and tops should be wiped several times a day as necessary.

4. Hot units, such as bun warmers, toasters, etc., should be kept free from crumbs. Drawers in bun warmers should be cleaned daily, including the drawer runners and the upper and insides of the drawer openings.

5. All dispensers which use a syrup or liquid base must be dismantled and cleaned daily. This includes the hot chocolate, ice tea or any other beverage-type dispenser. Carbonated beverage and fruit drink dispenser nozzles, valves and drains should be cleaned and sanitized once each day to prevent mold growth. The cream dispenser must be dismantled and cleaned daily using soapy water, being careful not to submerge the insulated creamer in water since the sides of the creamer are hollow and insulated. If the creamer is allowed to soak in water, it causes condensation in the insulated areas which will result in rust and a breakdown in the insulation. Dispensing areas must be checked frequently. Keep equipment clean and wipe up spills promptly.

6. Racks for trays, silver, dishes, glasses, straws, etc., should be clean at all times. They should be cleaned at least once a day and wiped off as necessary during the day.

7. Ice is considered food and must be handled as such. Ice stations must be kept in a clean, sanitary manner at all times. Scoops, tongs and/or other containers must be clean and sanitary. Ice making machines must be checked frequently to make certain they are clean.

Cleaning Equipment

1. Counters: Where do you look for soil on counters? The tops of counters are being wiped and cleaned regularly. Places to look for soil are under the edges of the counters, in cracks where counters are joined together, on shelves and on the legs. Kinds of soil are food scraps and particles, spillage, grease and accumulated dust.

2. Refrigerators: What should you look for in any refrigerator? Cleanliness. Refrigerators should be on a regular cleaning schedule; that is, cleaned thoroughly at a specified time. Spillage and other soil should be cleaned up daily or as necessary. Remove all food products from the refrigerator before starting to clean to prevent food becoming contaminated by cleaning solution. Cleaning solution may be prepared by using ½ ounce trisodium phosphate in two gallons of water. Ammonia and water also make a good cleaning solution. Wash the inside of the refrigerator, shelves, racks and trays at least twice each week with the cleaning solution. Rinse with a weak solution of baking soda and water (½ ounce soda to two gallons of water), dry inside of refrigerator thoroughly. Flush refrigerator drains weekly using a solution approved by the building management. Some refrigerators have an evaporative system and do not have drains.

3. Storage: Food should be stored on shelves at least six (6) inches off the floor and everything must be covered. Store all prepared food items on upper shelves and unprepared foods on lower shelves. Do not stack food items on top of each other. Do not use commercial food containers for storing of food other than the original content of the container. Do not reuse tin cans for food storage. Store food items in a manner as to allow free circulation of air.

4. Temperatures: Maintain refrigerators at temperatures below 50° F. Place thermometers in an easy-to-read location within the refrigerators.

5. Operation: For a refrigerator to operate properly, a large volume of air must pass through the fins of the condenser. These fins and the air intake louvers must be kept free of lint, dust and other obstructions.

Cleaning and Sanitizing Multi-Use Utensils

The regulations for cleaning kitchen utensils are:

1. Pans not frequently used should be washed prior to use.
2. Avoid using pans or other utensils for purposes other than food preparation.
3. Store all pans and similar cooking utensils in an upside-down position well above the floor.

The Regulations for Cleaning and Sanitizing Dishes, Glasses and Silverware are:

1. Check and prepare your materials and equipment to be used: sinks, hot water, detergent, sanitizing agent, scraper, drying racks.
2. Scrape and prewash dishes and utensils.
3. Wash in clean, hot water containing a good detergent.
4. Sanitize (rinse). Either submerge in water 180° F. for at least one-half minute or use one of the following sanitizing agents:
   a. Chlorine (bleach), 100 ppm for one-half minute (approximately one ounce to four gallons of water).
   b. Quarternary ammonium compound 200 ppm for two minutes (approximately two ounces to four gallons of water).
5. Air dry dishes and store in a clean protected place.
6. Keep fingers off eating and drinking surfaces of utensils.

7. Store silverware in containers so that it can only be removed by the handles.
8. Store glasses and cups in an upside-down position on a clean, washable surface (avoid using shelf paper or covering of any kind).
9. Store eating utensils in a protected location away from dust and possible spilled food.

How Hand Cleaning Equipment and Allied Supplies (i.e. mops, brooms, cleaning compounds, etc.) should be Stored and Cared for:

1. Racks should be installed for brooms, mops, etc., so they may be kept orderly and have a chance to dry and air out. Mops must be thoroughly rinsed in clear water after each use. Avoid using excessive bleach in the mop water. Excessive bleach will deteriorate the strings of the mop, causing them to break off while mop is used, leaving bits of string on the clean floor and resulting in an untidy appearance. The mop must be kept free of tangles if a good job is to be accomplished with it. The tangles should be removed by standing the mop on end, dividing the mop head into two sides and combing the strings downward with your fingers.
2. Mop buckets should be dried out after each use and stored upside down.
3. Detergents, bleach and other cleaning compounds and solutions should be clearly marked and be stored away from food storage or preparation areas.
4. All drains in the food service operation should be flushed periodically. All chemicals used for cleaning drains should be approved by the building management.

Scheduling

1. The success of any sanitation program depends upon the effective scheduling of tasks upon which cleanliness depends.
2. The frequency which various tasks demand will vary slightly from location to location but they generally follow a pattern.
3. Each employee should have specific tasks assigned to him. So there is no question, a written work schedule should be furnished by the operator.
4. If a program of work scheduling and job assignment is carefully followed, there should be no breakdown in the chain of sanitation. The location should present an attractive appearance and sales should increase.

Operational Tasks

The following tasks should be performed:

1. After each meal and coffee break:

a.	Wipe:	Tray slides and counters
		Food and beverage serving units
		Tables and chairs
b.	Clean:	Bussing equipment and bussing area
		Water stations
		Exterior of trash cans
		Steam tables
		Sneeze guards
c.	Wash and sanitize:	Food preparation equipment
		Serving equipment
		Work surfaces

d. Store or dispose of unserved food.

e. Check and refill dispensers, as needed.

f. Drain dishwashing equipment, clean scrap trays and drains, drainboards and sinks.

2. Each day:

a. Dust mop floors in: dining area, serving area and stockroom.

b. Wet mop floors in: food preparation area and rest rooms.

c. Wipe food residues from walls.

d. Clean:
- Grease filters and troughs
- Floor mats
- Exterior of display equipment
- Cooking equipment
- Garbage storage area and can-wash facilities
- Lavatories, urinals and toilets

e. Clean and sanitize:
- Beverage equipment nozzles and drains
- Can opener

f. Empty trash and clean trash containers.

g. Check temperature in refrigeration and food warming equipment.

h. Clean and store cleaning equipment.

i. Drain and clean dishwashing equipment.

j. Arrange stock in display equipment.

k. Close and lock cabinets and doors.

3. Once each week:

a. Clean:
- Refrigerator interiors
- Air intake louvers and condensers on refrigeration equipment
- Hood

Floor sinks and floor drains

Fans

Storage shelving

b. Wet mop dining area, serving area and storage area floors.

c. Descale dishwashing machine.

4. As needed:

a. Wipe up spills.

b. Spot mop floors.

c. Wash: Walls

Windows and sills

5. Once each month:

a. Wash: Tables and chairs

Maintenance Materials

1. Synthetic detergents: The basic cleaning material which is recommended for custodial maintenance is an all purpose, neutral detergent. These are recommended because they will remove almost any soil conditions encountered in food service establishments and they can be used on any surface which can be cleaned with water. The neutral detergents are mild enough that they do not attack the skin yet strong enough to accomplish almost any cleaning task including wax stripping. Almost every detergent manufacturer and janitor supply house has a product which qualifies as a neutral detergent. Buy from a reputable supplier and be sure that the label contains instructions for the use of the product you buy. Each cleaning job and each detergent have specific instructions so that satisfactory cleaning will be accomplished. Many of the "neutral - all purpose detergents" on todays market are advertised as "rinseless". Never

use the rinseless procedures on surfaces upon which food will be placed. Always rinse these surfaces with clear water.

2. Abrasive cleaners: The abrasive cleaners vary widely in composition from powdered soap combined with fine sand or pumice to pure alkaline powders. Extreme care should be exercised in using these products as they will destroy the surfaces of many materials.

3. Alkaline cleaners: The common alkaline cleaners include ammonia, trisodium phosphate (T.S.P.), soda ash, caustic soda, etc. Machine dishwashing soap should be included in this class of cleaner. These chemicals destroy many surfaces including resilient tile flooring, concrete and aluminum. The use of these chemicals for any but the most extremely greasy soils is discouraged. When this type of cleaner must be used, they must be rinsed off thoroughly. Additional care must be taken to prevent contact of these cleaning compounds with the skin or eyes.

4. Descaling agents: Three principle agents are used to remove lime scale from dishwashing equipment:

   a. Chelating Agents: These are too expensive for most uses except where silicate scales are encountered.

   b. Hydrochloric Acid (Muriatic Acid): This should be used by trained personnel only.

   c. Sulfamic Acid: This is a mild, organic acid compound available in both powdered and liquid form from most janitor supply and detergent suppliers. This product is relatively inexpensive and safe to both the equipment and the operator.

SUMMARY

Store Eating Utensils Properly

1. Easily cleanable surfaces; no paper coverings.
2. Shelves at least six inches from the floor.
3. Silver stored so it is removed by the handles.
4. Cups and glasses inverted.
5. Storage away from heavy traffic, splash from sinks, etc.

Use Good Kitchen Utensils and Store Properly

1. Must be of smooth, easily cleanable construction.
2. Never use empty tin cans as utensils.
3. Must fit in sink for washing.
4. Wash promptly and carefully.
5. Store away from dust and dirt.

Clean Equipment Regularly and Thoroughly

1. Take equipment apart for cleaning if necessary.
2. Disconnect electrical equipment before cleaning.
3. Clean all working surfaces before placing food on them.
4. Do not set anything from the floor onto a working surface.

Good Planning and Layout make Good Housekeeping Easier

1. Arrange flow of food in a continuous line from the receiving platform to the customer.
2. Plan so that food service does not cross paths of dirty dish removal.
3. Place pipes, drains and wires so they do not interfere with floor and wall cleaning.

Keep Floors and Restroom Clean

1. Clean floors regularly and often; keep drains clean.
2. Wipe up spills immediately.
3. Scrub only a small area at a time.
4. Sweep often between scrubbings; use a dustfree method.
5. Have single service towels in the restrooms.
6. Provide ample, easily cleaned waste containers. Empty often.
7. Keep soap containers filled and operating.
8. Keep fixtures clean and free from stains.

A regular schedule for cleaning is a "Must". Write it out and post it.

GOOD HOUSEKEEPING IS GOOD BUSINESS. GOOD HOUSEKEEPING PREVENTS ACCIDENTS.

DISHWASHING PROCEDURES

Basic Equipment

1. The operator has little or no control over the type or amount of dishwashing equipment provided in his location since the equipment is usually installed before the operator is selected. However, employees must have certain basic equipment if good results are to be obtained. The following equipment is needed to prepare the dishes for washing:
   a. A table for dirty dishes.
   b. Dish scraping facilities (a place for garbage).
   c. Prewashing equipment (sink with spray if possible).
   d. Place for soaking tableware (sink or other container).

Prewashing Preparation of Dishes

1. Separate glasses, dishes and tableware.
2. Stack trays.
3. Scrape and spray dishes (careful scraping of dishes actually saves time).
4. Soak heavily soiled dishes (egg and casserole dishes usually require soaking).
5. Soak silverware in mild detergent solution.
6. Stack or rack utensils properly.
7. Avoid using water over 120° F. when spraying dishes to prevent scalding hands.

Machine Dishwashing

1. Clean dishes are the result of machine dishwashing only if hot water, strong pressure of water being pumped over the dishes and the proper ratio of detergent chemicals are used. The manufacturer's instructions must be followed if the machine is to operate efficiently.
2. Since clean dishes are one of the most important factors in a food establishment, an operator must use employees who know and use good sanitation procedures. Think of your dishroom employees as sanitary engineers who are vitally important to your operation. Never underestimate the importance of these positions. Create as much pride in the dishroom operation as you possibly can. Be prompt with praise when dishes are clean and sparkling. Be just as prompt to alert the dishroom staff when dishes or utensils do not meet the high standards which must be maintained if your location is to be successful.
3. Each person who operates the dishwashing machine should be instructed in the proper use of the equipment. This insures good results and helps to eliminate costly repairs to the machine.

General Instructions for Use of the Dishwashing Machine

1. Place curtains in designed location.
2. Close drains.
3. Fill tanks with fresh water to overflow level. Turn off fill valves.
4. Put scrap trays in place.
5. Turn on heating element to each tank, if necessary, to maintain temperature. The health department requires a temperature gauge in good working condition on all dishwashing machines.
   a. Prewash tank should be 110° F.

b. Wash tank 160° F. (less than 160° F. will not wash satisfactorily).

c. Power rinse 170° - 180° F.

d. Final fresh water rinse 180° - 190° F. (less than 180° F. will not rinse because water turns to steam).

6. Put in correct amount of compound using the most satisfactory method for the machine. Automatic dispensing devices which meter the proper amount of detergent into the wash tank at each cycle of the machine are available from most soap manufacturers. They should be used since hand charging of the wash tank usually results in wide variations in the amount of detergent used. All dispensers should be checked often for accuracy. A kit and instructions for making the litmus test may be obtained from the soap representative. This test will indicate if the proper amount of soap is being used. This test should always be made if dishes are not clean when they leave the machine.

7. Turn on pumps.

8. Use rinse additives applied through an automatic dispenser to insure sparkle; water will sheet off and dishes dry faster.

Washing Operation

1. Use the method of scraping described in the beginning of this lesson. Remove papers and napkins from cups and glasses before racking. Cigarette ashes should be rinsed from dishes prior to machine dishwashing. If stains are a problem on dishes and tableware, a routine destaining program should be set up where the stained dishes or utensils can be soaked in a destaining solution recommended by the soap representative.

2. Place dishes in racks carefully to avoid breakage. Cups, glasses and bowls are always placed bottoms up in the racks.
3. Racks should not be forced into rack conveyor machines but should be allowed to be carried into or from the machine by the conveyor mechanism.
4. Wash and rinse cycle is determined by the speed of the conveyor mechanism in tunnel-type machines. Undercounter machines are timed by automatic or manual controls.
5. Remove racks from the machine after rinsing is completed and allow them to air dry. Open the door of the machine immediately after the completion of the rinse cycle to prevent water from condensing in droplets which will cause spotting and poor drying.
6. Tableware should be washed in a flat rack well distributed over the bottom of the rack. Care should be taken not to overload the rack so that all of the tableware will be exposed to the washing and rinsing action of the machine. When one cycle of the machine is completed, sort the pieces into cylinders with the handles up and run these through a complete cycle of the machine. The tableware should then be allowed to air dry in the cylinders and placed out for the customer with no further handling.

Care of Machine after Dishwashing

Water should be changed in the dish machine after each meal if the dishes are heavily soiled. To change the water, do the following:

1. Turn off heat to tanks.
2. Turn off switch to soap dispenser.
3. Drain tanks.
4. Remove scrap trays and rinse inside of machine with warm water from a hose, if possible.

5. Empty, flush and brush scrap trays in sink.

6. Machine is ready to refill.

Thorough Cleaning at the End of Each Workday

1. Turn off heat to tanks.

2. Turn off switch to soap dispenser.

3. Drain all tanks.

4. Remove curtains and scrub with stiff bristle brush and detergent. Rinse and hang to dry.

5. Remove and clean entire wash arm mechanism, if possible. Failure to do so will result in corrosion and it will become impossible to remove particles within a few months. Carefully clean spray nozzles or slots with a small wire or paper clip. Replace ends of arms and tubes.

6. Remove ends of final rinse arms, if possible, and if necessary, for cleaning. Open spray nozzles with small wire or paper clip and flush arms by activating rinse, being careful of the scalding water. Avoid removing the final rinse spray nozzle since these are adjusted to spray at a specific angle.

7. Hose interior of machine with fresh warm water. Using stiff bristle brush and detergent, brush interior of tanks, drains and any other areas that are contaminated. Hose with fresh warm water. Clean the overflow pipe and drains. Leave the drain open.

8. Brush scrap trays with detergent, rinse and reinstall in machine.

9. Leave doors open to air dry machine.

10. Wipe exterior of machine with soft clean cloth and warm water. Clean behind doors and wipe dry.

11. Brush all work areas or tables with hand washing detergent and rinse with fresh warm water.

12. Wash floor with string mop and detergent. Mop dry and air dry.

13. Periodically the machine should be delimed. The soap representative will recommend a product and give instructions for proper usage. A good soap representative will check your machine at least once every two weeks to see that everything is in good working condition.

14. Pots and pans should not be washed in the dishwashing machine because the strong detergent used in the machine will damage the metal of the pans.

Hand Dishwashing

1. Use the prewashing instructions previously stated at the beginning of this lesson. When cups, glasses or bowls are put into the water, be sure to lay them on their sides to prevent air being trapped inside keeping the water from touching the soiled surfaces. Keep dishes separated, washing each group together. Never mix glasses, cups, plates and silverware.

Procedure for Using Three-Compartment Sink

The State law requires that three-compartment sinks be used for hand dishwashing. If possible, use sinks large enough to accommodate the large dishes easily. Sinks which are too large cause waste of water and detergent.

1. Wash compartments

   a. Place dishes in clean hot water (110° F. - 120° F.) containing an effective detergent.

   b. Use a clean brush or dish mop.

   c. Never use dirty water; change water often using extra detergent when necessary.

d. Rack the dishes.

2. Rinse compartments

a. Place racks of dishes in clean hot water (120° F. - 140° F.). Move racks up and down in the water.

3. Sanitizing compartment using Hot Water Method

a. Submerge racks of dishes in clean hot water (180° F. is mandatory). A thermometer must be kept on hand for verifying the temperature. Dishes must remain in 180° F. water for at least 30 seconds. After removing the racks of dishes from the hot water, allow them to air dry.

4. Sanitizing compartment using Chemical Method

a. Submerge racks of dishes in water containing an approved sanitizer. Chlorine is effective, inexpensive and readily available at any local grocery store (Chlorox, Purex, etc.). There are other chemicals on the market which may be used. The health department sanitarian can tell you which chemicals have been approved for this purpose. Allow the racks of dishes to air dry after removing them from the water. After draining the wash or rinse compartments, always rinse well before preparing the next wash or rinse water. These compartments should always be left immaculate at the end of the day.

b. Pots and pans are washed using the same procedure as described for dishes. Use detergents safe for pot and pan metals.

Storage of Clean Dishes

1. Clean, dry dishes should be stored in a dry area protected from dust, insects or other contamination. When handling clean dishes, be careful not to touch surfaces which will come in contact with food

or lips. The most efficient method of storing clean dishes is by using portable self-leveling devices. This fully protects the dishes and they may be wheeled to the serving area. Some of these devices are equipped with heating or refrigerating elements. Pick up tableware and cups by handles. Glasses should be picked up by the base. Glasses and cups should be stored upside down. Discard cracked or chipped dishes or glasses since they are a hazard to the health and safety of the employees and customers. Broken dishes give a poor impression to customers and can cause loss of business.

2. Pots and pans are stored and protected from contamination in the same general manner as clean dishes. This was previously discussed in the Housekeeping lesson also.

Caution: Store all clean dishes and utensils at least six inches above the floor.

SUMMARY

BY HAND

1. Prepare equipment:
   a. Sink (three compartments)
   b. Sanitizer
   c. Scraper
   d. Drying area
   e. Hot water
   f. Detergent
2. Prewash or wet-scrape dishes.
3. Wash in hot water with a good detergent.
4. Rinse in clean, hot water.
5. Sanitize: either submerge in water 180° F. for 30 seconds or use a chemical as directed.
6. Air dry the dishes, inspect and store in a clean, protected place.

BY MACHINE

1. Fill machine, add detergent, turn on the heat. Keep wash temperature 160° F. - 170° F.
2. Sort, scrape and pre-rinse the dishes.
3. Rack dishes so water reaches every surface.
4. Run machine 20 to 30 seconds or a full cycle.
5. Rinse at 180° F. for 10 to 15 seconds or a full cycle.
6. Air dry dishes and glasses. Inspect and set aside any not clean.
7. Take machine apart and clean.

PREVENTION OF FOOD POISONING

Since germs are everywhere, we know that there may be some harmful bacteria in all food. While the human body can eliminate or destroy a large number of bacteria without harm, there is a point at which the body can no longer repel the invaders. The job of sanitation is to prevent the bacteria that may be present from growing and multiplying to the danger point in the food we serve.

The term food poisoning, as used in this section, refers to the conditions caused by the ingestion or taking into the stomach of foods contaminated by harmful bacteria or their toxins (poisons).

The problems of food poisoning are easier to understand when we know something about how bacteria grow and multiply. Their growth is fast and simple. Under favorable conditions, germs or bacteria, divide once every twenty minutes. In eight hours, one bacterium, under favorable conditions, can multiply into over 35,000,000,000,000 (thirty-five trillion)! They multiply day and night without stopping. Note, however, that they multiply this fast under <u>favorable</u> conditions. The conditions they like are the same that humans like for comfort and are listed below.

<u>Warmth</u>: bacteria grow most rapidly at body temperature.

<u>Food</u>: they like most foods which can be consumed by humans.

<u>Moisture</u>: needed both to live, expand and grow.

Since we are concerned most with the bacteria which are already in or which get into the food, where moisture is usually present, our principle weapon against them is temperature.

Bacteria grow slowly at temperatures below 40° F. and little if any at 0° F. and below. They grow very slowly at temperatures over 140° F. and are killed rapidly by temperatures over 170° F.

When preparing hot foods, heat the food to at least 140° F. as quickly as possible and keep the food at this temperature until served or refrigerated. Cold foods should be refrigerated below 40° F. as quickly as possible and kept at that temperature.

Foods should be kept at temperatures between 40° F. and 140° F. for as short a time as possible and for preparation only.

Besides the bacteria which are usually present in the food, additional bacteria develop if the food is left exposed to other sources of contamination during preparation and serving. Therefore, food should always be covered and protected to the maximum.

Food poisoning is the major problem resulting from improper methods of food preparation and storage. It is probably the most dramatic and disasterous crisis which can happen to a food service operator. Since several people may become ill from food poisoning, it usually results in very unfavorable publicity. Even if there are no deaths (and deaths are possible), much suffering is caused and often the patient is hospitalized.

There are several types of food poisoning. Some of them are listed below:

1. Staphylococcal: This is the most common food poisoning and it usually hits many people at once. Staph is caused by the poisons bacteria produce in foods, rather than the bacteria themselves. In order to produce this poison, the bacteria must be allowed to grow in the food for a period of time at room temperature.

a. Foods most susceptible to staph poisoning are cream filled pastries, meat and fish salads, sandwich fillings and foods prepared with a cream sauce.

b. The usual way the staph bacteria enter the food is by someone with open sores, bad colds or dirty hands handling the food or by the food coming in contact with dirty equipment.

c. Once the food is poisoned, it is unsafe for consumption since cooking will not destroy the poison. The food should be destroyed promptly. If the food is consumed, it can cause the person to become ill, usually within two to four hours, with severe nausea, vomiting and diarrhea. It usually does not cause death.

2. Salmonellosis: An infectious food poisoning caused by the bacteria themselves. The bacteria multiply rapidly in food standing at room temperature.

a. Food may become contaminated by coming in contact with the excreta of infected rats or mice. Food handlers who have had a case of salmonellosis can contaminate the food if they return to work before they are completely cured since they are carriers of the disease. The disease is also caused by the ingestion of infected animals. Poultry, dried eggs and other high protein foods are very susceptible to this bacteria.

b. Victims of salmonella will have symptoms of diarrhea, cramps, fever, nausea and vomiting usually within six to forty-eight hours after consuming the food. Deaths are more common from this type of food poisoning than from staph poisoning.

c. Salmonella can be destroyed by thorough cooking of the food products.

d. Typhoid fever is caused by a salmonella specie usually carried by contaminated water, shell fish and milk at the source of supply. Preventive measures are cleanliness of food handlers, control of insects (especially flies), purchase only those foods which have been inspected and approved for human consumption.

3. Botulism: A rare and highly fatal form of food poisoning caused by improperly canned foods. Because of strict government inspection of canneries, there is practically no danger of botulism from commercially canned foods. It is usually caused by home canned foods. Restaurants are not allowed to serve home canned foods. Beware of foods in cans with bulging ends.

4. Chemical Poisoning: Caused by poisonous chemicals getting into the food. Keep poisons clearly labelled and stored away from the food preparation area.

a. Fruit juices and acid foods should not be allowed to stand in galvanized containers since the acid will dissolve the zinc and possibly cause food poisoning. Use safe containers made of glass, plastic, aluminum or stainless steel.

b. Use cleaning compounds which are nonpoisonous. Avoid using insect sprays in the food preparation area until all food has been put away. Always clean tables and equipment thoroughly after spraying with insecticides.

c. Wash fresh fruits and vegetables carefully since they may have been sprayed in the fields.

Other illnesses which attack humans through contaminated food are as follows:

1. Dysentery: May be the result of minor food poisoning; also caused by water contaminated at the source, defective plumbing, unclean food handlers and flies or other insects. Preventive measures are approved water supply and plumbing in good working order, clean food handlers and control of insects.
2. Trichinosis: Caused by consuming infected pork which has not been cooked well. The preventive measure is to cook the pork until it has reached a minimum temperature of 140^{o} F.
3. Brucellosis and Scarlet Fever: Caused by raw dairy products contaminated at the source. The preventive measure is to use only pasteurized dairy products.

Food Handler's Basic Rules for Food Protection to Insure Against Food Poisoning and Spread of Contagious Diseases:

1. Wash hands thoroughly before starting to work. Always wash hands in the washroom after each visit to the toilet.
2. Never handle foods when ill or when hands have infected sores on them.
3. Always use clean tongs or other serving tools for handling foods. Avoid touching the food except when necessary.
4. Never smoke while handling food or beverages.
5. Use only clean, sanitized pots, pans, dishes and tableware.
6. Protect foods from customer's sneezes, coughs and handling by using sneeze guards or food wrapping.
7. Keep entire food establishment sanitary and free of vermin. Pets are not allowed in food establishments.
8. Store all foods at least six inches above the floor.

9. Use proper preparation, refrigeration and storage procedures.
10. Keep prepared or perishable foods at proper temperature. Cold foods should be kept below 40° F. and hot foods above 140° F.
11. Steam table containers should not be filled above level of hot water bath.
12. Keep food preparation time to a minimum. Never allow perishable foods to stand at room temperature more than one hour accumulated time for preparation and serving.
13. Keep all containers clearly labeled to avoid poisonous or undesirable ingredients being used in food preparation. Never store poisons in food preparation areas or food storage rooms.
14. Purchase only those foods which comply with government regulations. Keep food inventories as fresh as possible. Avoid overstocking.
15. Never serve foods from swollen cans.
16. Throw out any foods which you feel may not be safe to serve the customers.

Scale of Critical Temperatures

212° Water boils and kills most resistant bacteria in two minutes.

170° Kills most common disease producing bacteria.

140° Bacterial growth usually stopped and some are destroyed.

98.6° Body temperature; bacteria grow most rapidly at this temperature.

70° Room temperature; bacteria grow rapidly.

50° Bacterial growth slowed; almost stopped below this temperature.

33° - 40° Walk-in refrigerator temperature range for most foods; seafoods should be kept at around 30° F. - 34° F.

Food Protection by Refrigeration

The ideal temperature inside the refrigerator should be 36° F. - 40° F. This should be the lowest temperature maintained since a lower temperature than this can result in freezing of fruits and vegetables. When doors to refrigerators are being opened and closed, the temperature will probably rise to 50° F. However, since this 50° F. temperature is for very short periods of time, the food should be safe if the 36° F. - 40° F. is maintained most of the time. Hold frozen foods at 0° F. and ice cream at 8° F.

The Following Rules should be Observed for Efficient Refrigeration

1. Place food packages or containers in the refrigerator in a position which will allow air to circulate freely. This allows the cold air to come in contact with each item quickly, reducing the temperature rapidly.
2. Hang raw meats away from the walls to allow a free flow of air which aids in preventing spoilage.
3. Put food in containers with lids to prevent contamination, flavor loss or exchange of flavors with other products.
4. Rotate stock and leftovers. Always use the foods which are most perishable first. Never keep foods in the refrigerator for long periods of time since this will result in loss of flavor and spoilage. A general rule for using stock and leftovers is "First in should be first out". Use the system of storing stock and leftovers in which fresh items are always stored on the back side of shelves and move everything already on hand forward so it will be used first. This eliminates the possibility of items being pushed to the back, becoming lost and resulting in spoilage.
5. Keep the refrigerator neat and clean. Clean regularly following

the procedure given in the Housekeeping lesson. A refrigerator should be free from offensive odors. Always wipe up spills promptly and throw away any foods which have been in the refrigerator too long. Keep the refrigerator free of frost more than one-quarter inch thick since this acts as an insulator causing overwork to the refrigerator which may result in unnecessary breakdown and repairs.

6. Keep the refrigerator door closed as much as possible, gathering as many items in one trip as can be safely carried. This will eliminate opening the door several times allowing cold air to escape and warm air to enter raising the temperature to an unsafe level.
7. All items stored in the refrigerator in the original crate or container in which it is delivered must always be placed on the bottom shelves since the container may be contaminated after being placed on the ground or in contact with other unclean areas.

SUMMARY

To prevent bacterial food poisoning and infection

1. Keep harmful bacteria away from food as much as possible.
2. Keep bacteria from growing if they do get into the food.
3. Watch time and temperature as well as cleanliness.

Time

1. Don't let food ready to serve stand longer than one hour at room temperature.

Temperature

1. Keep cold foods refrigerated at 40° F. or lower until they are served.
2. Keep hot foods hot, above 140° F., until they are served.

WATCH THE FOLLOWING FOODS BECAUSE BACTERIA GROW RAPIDLY IN THEM

1. Cream filled or custard filled pastries, cakes and puddings.
2. Any dish made with cream sauce.
3. Meats, poultry and fish.
4. Dressing for poultry or meat.
5. Sandwiches and sandwich filling.

To prevent chemical food poisoning

1. Be sure all poisons are clearly labeled.
2. Never store poisons in food preparation areas.
3. Don't use insect sprays over or near food.
4. Don't keep any acid food or drink in a galvanized container.

Safe storage methods

1. Clean storage rooms which should not be used for other purposes.
2. Food should be stored at least six inches above the floor.
3. Clean, neat refrigerator.

4. Food refrigerated in shallow containers, always covered.
5. Refrigerator not overloaded preventing air circulation.
6. Refrigerator shelves free of shelf coverings.

Seven easy rules for safe food

1. Keep cold foods cold and hot foods hot. Don't let foods stand at room temperature.
2. Keep hands clean and touch food with hands as little as possible.
3. Don't let anyone with a skin infection or a cold handle food.
4. Keep kitchens, dining rooms and storage rooms free from rats, mice and insects.
5. Protect food from sneezes, customer handling and dust.
6. Be sure poisons are well labeled and kept away from food preparation areas.
7. Wash dishes, glasses, silver and utensils by methods recommended by your health department.

Food Protection through Control of Rodents and Insects

Rats, mice, roaches and flies are carriers of germs and diseases. All food products and equipment should be safeguarded from these sources of contamination. Whenever you see one of these pests, be assured there are others because they live in colonies.

Rats are one of man's worst enemies. They are filthy and contaminate and spoil food with their feces and urine. They are infested with fleas. These fleas carry disease to man. The bubonic plague is a disease carried by rats and fleas. Rats are the source of trichina, the worm which causes trichinosis. Hogs eat rats which infect the hogs and man, in turn, eats the infected hogs.

Methods for Control of Rodents

1. Keep everything clean, neat and free from trash.
2. Eliminate rodent hiding places.
   a. Close all wall cracks and openings with metal or cement.
3. Don't feed the rodents.
   a. Use metal garbage containers with tight fitting lids.
   b. Keep floors clean in kitchen, dining room, storeroom, toilet, locker rooms and all passageways.
   c. Cover and protect all food, particularly at night and in places where there is little human activity during the day.
   d. Store foods and supplies at least six inches above the floor.
4. Trap and destroy any rodents found on the premises.

Methods for Control of Flies and Roaches

Flies and roaches are filthy pests. They live and breed in filth; they carry it on their feet, in their intestines and deposit it on the food. Bacteria also thrive on filth. They live in the filth on the feet of flies

and roaches and in their intestines. When deposited on food, these bacteria grow and multiply.

1. Get rid of all garbage and rubbish promptly. If garbage is placed in garbage cans, be careful not to spill any of the garbage on the ground or surrounding area. Use only metal or plastic containers with tight fitting lids.
2. Keep screens over windows and use doors which are self-closing.
3. Insecticides containing pyrethrum may be used but NEVER with exposed food. Insecticides containing pyrethrum, pyrethrins and piperonyl butoxide are permissible for use in food storage, preparation and serving areas; however, food must be protected from contamination by the insecticide and all food contact surfaces must be washed after use of the insecticide.
4. Keep storage areas dry.
5. The services of a professional exterminator are usually advisable in large locations or if your efforts are not getting results.

Other Insects which Contaminate

Many insects such as beatles and mites are brought into the premises with the food supplies. Always check new supplies before storing. Use all of the food products on hand before using the fresh deliveries.

Foods which are likely to be infested are dried foods, cereals, yeast, nuts, beans, flour, cheese, ham and many others.

Methods of Control

1. Clean up waste and spillage promptly.
2. Keep food supplies as fresh as possible. Don't mix new supplies with old ones.
3. Keep foods stored safely in containers with tight fitting lids.

4. Spray storage areas with a pyrethrum insecticide. Keep storage areas dry.
5. Inspect flour, flour mixtures and flour products in storage frequently to determine the presence of stored food insects. When insects are detected, remove the infected product and spray the storage area with a pyrethrum insecticide. Remove the insect-infested product to an area where it cannot infect other products.
6. Expert advice is usually available, to anyone who requests it, from the local health department on control of rodents and insects.

SUMMARY

How can we control rats and mice?

1. Eliminate nesting places
   a. Clean up all piles of rubbish, inside and outside the premises.
2. Eliminate hiding places
   a. Block all possible rat entrances.
3. Don't feed rodents
   a. Protect food at night.
   b. Keep garbage containers closed.
   c. Do a thorough cleanup job.
4. Kill the rodents
   a. Use traps for temporary control.

How can we control flies?

1. Eliminate breeding places
   a. Control the source.
2. Keep rodents out of your location
   a. Screen doors and windows properly.
   b. See that all doors open out and are self-closing.
   c. Install overhead fly fans or air curtains.
3. Do a thorough job of housekeeping
   a. Keep foods covered.
   b. Keep garbage containers sealed.
   c. Remove food accumulations promptly.
4. Kill rodents
   a. Use a pyrethrin insect spray inside the buildings.
   b. CAUTION: Don't use sprays with any food or food surfaces exposed in the room.

How can we control cockroaches and other insects?

1. Be alert to the first signs of infestation
   a. Destroy infested foods.
2. Do a thorough job of housekeeping and storage
3. Use proper insecticides and use them carefully.
4. Contact your local health department if you have further insect problems.

THE INSPECTION

Periodic inspections are made of all food service establishments to determine their level of sanitation. A food service operator should accept the suggestions of an inspector since they can serve to improve food quality and the appearance of the location and its employees which will certainly reflect in customer satisfaction. His suggestions could prevent accidents and illness to both customers and employees.

An experienced sanitarian or inspector can be a valuable friend in helping you improve cleanliness, service, quality and appearance of your premises.

The Basic Items Which are Checked on Each Inspection

1. Are the premises, equipment and employees clean.
2. Is the food clean and protected from contamination.
3. Are utensils cleaned and sanitized after each use and protected from contamination.
4. Can the premises be maintained in a sanitary condition or can it be cleaned easily.
5. Are there adequate facilities to accomplish a high level of sanitation and are the facilities properly maintained.

COFFEE MAKING

Listed below are essential steps needed to produce a fine cup of coffee:

1. Selection of fine green coffees from areas where climatic conditions, rainfall and care of plantations are uniform from year to year.
2. Knowledge necessary as a result of years of experience to properly blend the green coffees selected so that they will be balanced in flavor, strength, character and natural acidity.
3. Roasting equipment that will bring about a perfect roast development of the blended green coffees and the roasting facilities equipped with very accurate recording thermometers, so that each and every roast is identical and constantly uniform from day to day.
   a. The proper granulization or grind of coffees for whatever device the brew is to be made in is very important so that proper contact time of boiling water and ground coffee will produce a full-flavored beverage. Good granulizing equipment for perfect grinds is equally important to good roasting equipment for perfect roast development.
4. Coffee brewing equipment must be scientifically right and maintained in perfect condition. The above three important steps are entirely wasted unless the device in which a fine blend is to be brewed is of the proper size and condition to get the very best brewed beverage out of a good blend.
5. Sales or contact organization schooled thoroughly in fundamentals and highly enthusiastic in spirit. The necessary time and work

must be given to make sure that every person in the restaurant understands thoroughly how to properly brew our coffees to best advantage in whatever type of device they may have in use and to make sure that the coffee beverage in the cup is continuously good by trying it at frequent intervals in the regular course of delivery and sales service.

6. Be sure coffee urn jars are kept scrupulously clean and when not containing coffee that two quarts of clean, hot water remain in the jar.
7. If baking soda is used occasionally to scour and sweeten the jars, be sure soda is used upon dampened cloth to prevent soda lodging in the faucet lines. All traces of soda should be removed by thorough rinsing.
8. Keep drip basket away from dirty dishes, grease or soap. Always wash basket in clean, hot water.
9. Do not chill coffee by refilling water-jacket of urn abruptly. Replenish urn gradually so as to maintain a uniform temperature as much as possible.
10. The degree of water temperature should not be allowed to drop below 200°F. while coffee is prepared.
11. Do not brew coffee with water heated in coffee urn jars.
12. Be sure that the water-jacket has plenty of water to prevent burning out bottom of the urn.

Reasons for customer complaint with urn coffee due to brewing

1. Not thoroughly cleaned coffee urns
   a. Lines, covers, jars and glass
   b. Using baking soda

2. Not using fresh, boiling water
3. Incorrect amount of water
4. Incorrect amount of coffee
5. Incorrect number of repairs
6. Not having filter papers in even (if used) or more than one paper
7. Not wetting screen of basket
8. Not spreading coffee evenly in basket
9. Not locking spreader securely
10. Not closing cover between repours and after brewed
11. Changing temperature of brewed beverage
12. Leaving drip basket in urn too long
13. Too small brew for size of urn -- one-half pound brew in five gallon urn.
14. Not allowing coffee to run through before re-pouring
15. Not using fresh coffee
16. Improper granulation of coffee
17. Bad local water (condition)
18. Keeping coffee in urn too long
19. Adding salt, butter, bacon or anything other than coffee to the brew.

Water in the Coffee Brew

Water is vital in the coffee brew yet how much serious consideration is given it? On the basis of two gallons of water to one pound of coffee, the ratio is over 94 percent water and slightly under six percent coffee. When one seriously considers this proportion, the important part water plays in the body, flavor and aroma of the finished brew is realized.

Beverage and food manufacturers have long appreciated the necessity of special treatment of water and even though it is expensive and complicated, requiring exact analysis and scientific application, they realize their products will be judged as much by the character of the water used as by the flavoring extract, the grain, the fruit or any of the other ingredients used. Many claims are made that the special water used improves the value of beer, liquor, jellies, jams and food products. Dairies must give particular attention to the water butter is washed with.

While water is universally used as a solvent, it is never found in a chemically pure state and is the source of many difficult problems in food and beverage production. Where the dilution of the product is completed by the manufacturer, the control of the water can be, and usually is, appreciated as being of the utmost importance. Because of the exacting requirements, few beverage and food plants use municipal water as it comes from the city mains. Most of these municipal water plants are mere reservoirs, or settling pools, and use the chlorination treatment only strong enough to kill most of the bacteria which cause disease in human beings.

For coffee, we would be much better off without this chlorine treatment. We kill bacteria when we boil the water for brewing and chlorinization, especially during the hot months of July and August, is very noticeable and is a direct cause for many complaints that coffee is off-flavor. Yes, these off-flavors can be filtered out. The type of filter to be used depends upon the desired taste of the finished water.

The quality of the water varies widely in different localities. This is particularly true as to taste, hardness, color and chemical characteristics which have little or no effect on healthfulness yet make a decided difference in the taste of the finished coffee brew.

We appreciate that one of the objections to the use of hard water is the forming of lime in the brewing device. In cases where there is an extremely high calcium content (Lime) in the water, the bottom of an urn may burn out in six months time as a result of deposits of lime adhering to the bottom of the urn. Part of this unhappy development is due to the lack of attention to and care of the urn. An operator can get very satisfactory results if equipment recommendations are followed as well as instructions on procedure.

Turning to water softening systems to overcome the lime-forming difficulty does save time in brewing the coffee. The softened storage water is carried from 140° to 180° F. thereby shortening the time necessary to bring the water to a boil. This method also eliminates the need to delime the brewing equipment. But, the result is a mediocre cup of coffee, flat in taste, dark in color with no life or sparkle. Cold, fresh water for the brewing of coffee is strongly recommended. A point widely recognized is that a certain degree of hardness is necessary in the brewing water. There are numerous technical books on this subject.

The quality and flavor of beer depends almost as much on the water used, and its ability to blend properly with the malt and hops, as upon the yeast which is the brewer's most precious possession. If the water is too soft for brewing, it is often necessary to add burtonizing salts to bring it up to the required hardness. These salts usually consist of calcium sulphate, sodium chloride and sometimes magnesium sulphate.

One can gather from the foregoing that the proper treatment of water is not a simple matter but, on the contrary, is complicated, highly technical and costly. One big difference between the beverage processor and the coffee roaster is that the first controls the entire product up until it is

ready for consumption and, therefore, the finished product tastes the same from coast to coast. The coffee roaster loses control during brewing and serving. This loss of control results in a multitude of hit-and-miss procedures and a finished product of extreme variations.

In some territories, the water is naturally hard and, therefore, high in calcium content. This is recognized as a help in the beverage, adding flavor to the brew. Many caterers and housewives fail to recognize this God-given advantage and resort to the use of stale water from their storage tanks which has often been chemically treated with a water softener. These softening systems principally use the zeolite process and while they do soften the water for sanitary use, in separating the calcium by precipitation, we find they destroy the flavor and life of the water for drinking and also for the brewing of coffee.

After all, there is nothing more delicious, especially when one is thirsty, than a drink of sparkling hard, cold water free from disagreeable odors and taste. This type of water is full of life while the softened water is dead, flat and does not appeal to the taste.

You can readily see, when you consider that over 90 percent of the brew is water, the important part water plays in the brew of coffee. Cold, fresh water is strongly recommended. Never use preheated storage water for brewing coffee.

If the coffee roaster had control of the entire operation up to the serving of the cup of coffee, he could quickly eliminate discrepancies in the finished brew. This would be accomplished by following accurate procedure, by properly preparing the water and by controlling every operation up to the consumption of the coffee. One can use extreme care in the selection of character coffees, pay top prices to assure the highest grades

grown, use the latest type of equipment in processing and the most exacting care in all of the operations and yet get mediocre quality in the finished coffee beverage if proper steps are not followed in the brewing. Ours is an educating job, constantly bringing before the public the importance of proper coffee brewing procedure, the facts about the character of the water used and the extreme importance of accuracy.

COFFEE COSTS PER CUP

Cost Per Pound	2½ Gals. to Pound		3 Gals. to Pound	
	7 oz. Cup (50 Cups)	5½ oz. Cup (63 Cups)	7 oz. Cup (60 Cups)	5½ oz. Cup (77 Cups)
.80	.0160	.0127	.0133	.0104
.82	.0164	.0130	.0137	.0106
.84	.0168	.0133	.0140	.0109
.86	.0172	.0137	.0143	.0112
.88	.0176	.0140	.0147	.0114
.90	.0180	.0143	.0150	.0117
.92	.0184	.0146	.0153	.0119
.94	.0188	.0149	.0157	.0122
.96	.0192	.0152	.0160	.0125
.98	.0196	.0156	.0163	.0127
1.00	.0200	.0159	.0167	.0130
1.02	.0204	.0162	.0170	.0132
1.04	.0208	.0165	.0173	.0135
1.06	.0212	.0168	.0177	.0138
1.08	.0216	.0171	.0180	.0140
1.10	.0220	.0175	.0183	.0143
1.12	.0224	.0178	.0187	.0145
1.14	.0228	.0181	.0190	.0148
1.16	.0232	.0184	.0193	.0151
1.18	.0236	.0187	.0197	.0153
1.20	.0240	.0190	.0200	.0156

Other Costs per Cup

Sugar, 1/3 ounce per cup @ 10 cents per pound .0021

Cream, 3/4 ounce per cup @ 71 cents per quart .0167

Half & Half, 3/4 ounce per cup @ 40 cents per quart .0094

There are approximately 50 servings of sugar to the pound.

Basis of Coffee Quality

There are four principle factors which determine the quality of brewed coffee: (1) Flavor, (2) Aroma, (3) Strength, and (4) Clarity.

Flavor and Aroma

Flavor and aroma of brewed coffee are controlled principally by the percentage of soluble solids extracted from the ground coffee during the brewing process. A pound of coffee is composed of approximately twelve ounces of insoluble matter and four ounces of soluble matter. Therefore, only 25 percent of coffee is soluble in water. If four ounces of each pound were extracted during brewing, extraction would reach 100 percent. However, 100 percent extraction results in an undesirable brew. Thousands of tests have been made as well as experiments to make it possible to determine a definite percentage range of soluble solids which the finished brew must contain to be a desirable beverage in flavor and aroma.

Experiments have proven that the satisfactory range of extraction is between 70 percent and 85 percent. Therefore, a brewing device that extracts less than 70 percent of the soluble solids during brewing is unsatisfactory. Likewise, a device that causes "over-extraction", over 85 percent is not satisfactory.

Coffee Strength

For sometime past, most strength tests have been on the basis of color of the brew. But many factors such as the degree of roast can effect the

color of the beverage. Coffee of proper strength has a definite amount (by weight) of soluble solids in each cup. A satisfactory range of units of strength has, therefore, been established. One unit of strength is equal to .001 of an ounce of soluble solids per cup (5½ ounces) of hot beverage. The accepted range is between sixty to eighty units per cup, less than sixty being too weak and more than eighty being too strong.

CASHIERING

Labor is one of the principle items in determining operating costs. In order to reduce the labor cost of cashiering, it is important to gain high productivity which, in turn, depends on adequately trained and motivated employees, as well as on good equipment and sound operating methods. By increasing employee productivity, you decrease labor costs.

Why should we be concerned with cashiers? The cashier could be considered a part of the up-front selling in a location. The cashier comes in direct contact with the customer. The checkout stand should be a stand of good will; a place where the customer's grievances can be met. Therefore, the cashier must be friendly, courteous and efficient. Cashiering is a responsible job; it requires dependable people.

To make the cashier's job easier and more pleasant, we should train to develop the proper skill. The proper skill includes customer relations, the mechanics of operating a cash register or change tray, use of time, etc.

Previously we discussed the three "C's" of a Business Enterprise location. There are also three "C's" for cashiers which are:

1. Courtesy: Do not treat your customers as if they are mechanical machines. Smile at each one and acknowledge his presence by some appropriate pleasantry. Remember to say "Thank you". If you know the customer by name, use it. One likes to hear his name. Be courteous at all times but avoid being "too friendly". Joking remarks can be taken the wrong way by the person being addressed or someone who overhears the conversation. Don't engage in a lengthy

conversation with a customer keeping other people waiting in line for service. Be courteous even if a customer appears irritable or unreasonable.

2. Cleanliness: Cashiers must be neat and well-groomed at all times. The station around the cashier must be kept as clean as possible. The towel being used to wipe up spills must be rinsed often. Do not keep a dingy, dirty towel near the register.
3. Cheerfulness: Cashiers must give the impression of cheerfulness because the customer relates and reacts to the way you feel. If the cashier smiles, the customer will usually react and return the smile. A pleasant cashier who gives fast, efficient service will help to build repeat business.

Before a cashier can start the day, he will need a supply of change which we will call a "bank". The amount of money in the bank is determined by the operator. It is a constant amount. It must be adequate to make change. Usually sixty dollars ($60.00) is sufficient for a beginning operator. A representation of all coins must be maintained. At the end of the day this bank will be subtracted from the total money in the register in order to determine the amount of sales that particular day. This can be verified by cash register tapes. There may be an overage or shortage at the end of the day; however, cashiers should strive for accuracy.

Do not allow tills to become too full of coins since coins may fall into the wrong compartment. It is easier to remove coins from a till not more than one-half full. During slack periods, excess coins should be rolled; however, it is very important that the cashier have sufficient coins accessible either in the till or rolled coins to meet the demands of a busy period. No customer should have to wait while the cashier goes to the safe for extra change.

When handling currency, the cashier should place the bills face up uniformly, each bill facing the same direction. When small bills accumulate, bundle one dollar bills in amounts of $25.00. This may be done with a paper clip or rubber band.

Be extremely careful to put all money in the proper till since this will speed cashiering and eliminate the possibility of giving the customer incorrect change.

All cashiers should keep the change drawer closed when not actively making change.

Change Making Procedure

Step I. Call back the amount of the sale and the amount of money received from the customer.

Why:
1. To fix the amount of the sale in your mind.
2. To allow the customer to correct you before a permanent record is made of the sale.
3. It is a warning for shortchange artists that they won't get by you.
4. The cashier can correct any customer misunderstanding.

Example:

A customer gives you a $5.00 bill for $1.39 purchase which includes sales tax. The cashier will say (as the customer hands him the $5.00 bill), $1.39 out of $5.00.

Step II. Bills received should be placed on the slab. The slab is the ledge right above the cash drawer of a cash register. Even a cash tray should have some sort of a cleared ledge so that bills received from a customer can remain in sight until the transaction is completed.

Why: 1. The cashier can see the money while making change.

2. The cashier cannot forget the amount received from the customer.

3. The customer can see the money.

4. A warning for shortchange artists.

Example:

The customer hands the cashier a paper bill. The cashier lays it on the slab which is clear and clean.

Step III. Open the cash drawer using the instructions for your particular register or cash box. Before opening the drawer, call the amount of the sale and the amount of money received from the customer.

Step IV. The cashier should count the change to himself.

Why: 1. To make correct change and eliminate errors.

How: Use the addition or buildup method.

Example:

The cashier makes a sale for $1.39 and the customer hands the cashier a $5.00 bill. The cashier builds up to five dollars by counting from the amount of the sale; $1.39, $1.40, $1.50, $2.00, $3.00, $4.00 and $5.00. Taking the proper coins from the till in the cash drawer as the buildup process is followed. Always call the dollar signs.

Why: Eliminate giving the customer a dollar too much in change.

Example:

The cashier should say $1.39, $1.40, $1.50 and $.50 is two dollars, three, four and one is five dollars.

Always use the fewest pieces of money in counting change.

Why: 1. The till change will last longer.

2. Fewer mistakes will be made in counting because a minimum number of coins are used.

Example:

Use a dime instead of two nickels.

Use a quarter instead of two dimes and a nickel.

Use a half-dollar instead of two quarters, whenever possible.

Step V. The cashier should count the change to the customer using the same manner of counting as he did when counting the money to himself.

Why: 1. To check accuracy.

2. To speed service. The cashier can count it more accurately than the average customer.

Step VI. Thank the customer.

Why: 1. The customer is doing business with the organization voluntarily.

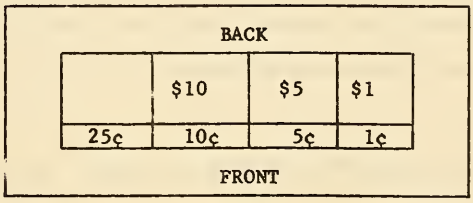
2. The cashier has the final contact with the customer.

3. The customer judges the organization by the service and the willingness of the cashier.

Step VII. After the transaction has been completed and the customer is departing, the bill is placed in the proper till.

Cashier Housekeeping

There are several ways to arrange money in a cash drawer. The most common method is from right to left. For further explanation, see the chart below.



Why is the right to left layout the most common method for arranging a cash drawer? Since most people are right-handed, it is easier for them to build up the change because the hand naturally wants to travel from right to left when picking up the coins from the till.

It does not matter which method you decide to use. Be sure that the arrangement has the same continuity throughout the location. To make continuous change or have several cash registers set up differently only confuses the relief cashier.

Odd-Cent Transactions

How should a cashier make change when a customer gives 52¢ in payment for 27¢ or when a customer makes a purchase of $1.36 and gives the cashier $1.51 in payment?

The cashier should mentally cancel out the odd pennies and add up to the rounded figure. Take the above example of 52¢ in payment for a 27¢ purchase. Cancel out the odd pennies and make change for 25¢ out of 50¢. Another example might be the following. The customer gives the cashier $1.51 toward the payment of $1.36. The cashier would mentally cancel out the odd pennies and make change for $1.35 out of $1.50. Using the buildup method, the cashier would add mentally $1.35, $1.40 and $1.50.

The cashier must be alert when making odd-cent transactions.

Mental Arithmetic

Most cashiers in food service and vending stands will be dealing mainly with one, two and three-digit numbers. Therefore, this particular section on cashiering will deal with numbers and how to use them quickly and accurately.

Addition

Adding single-digit numbers cashiers find easy. For example:

9 + 5 + 7 + 1 = 22 but when adding two-digit numbers, the cashier mentally feels it is impossible forgetting that it is just as easy to add 90 + 50 + 70 + 10 = 220, as when these appeared as single-digit numbers. How would you add 86 and 53? When adding 86 plus 53, use the same method as above. Add 80 + 50 = 130, plus 6 + 3 = 9, 130 + 9 = 139.

Now it doesn't seem so difficult when a little adjustment is made. Add 77 plus 68. 70 + 60 = 130. 7 + 8 = 15. 130 + 15 = 145. With practice, a high degree of speed can be attained. The same method should be followed for three and four-digit numbers.

CUSTOMER RELATIONS

Keeping well informed about your customer's desires is a continuous task since consumer buying habits and attitudes change constantly. Today's consumers have higher incomes and educational levels than in the past. They want and expect to purchase quality products. Very high standards are being demanded on clothing, furniture, automobiles and from industries which offer services such as hotels and restaurants.

Coffee and lunch breaks are very popular in the United States. Many office buildings do not allow food or beverages to be prepared or consumed any place in the building other than the cafeteria, if one is available. If the standards are high in the eating establishment provided for the employees, administrators are usually cooperative about enforcing this rule. However, if quality of food and service is poor, administrators are usually very lax towards enforcing it. Operators must not assume that the employees in the building are a captive group who must patronize his location.

Building management usually will not tolerate food or services which are substandard for very long. It is extremely important to keep lines of communication open between the operator and building management. This is probably the best source of information concerning customers' needs and attitudes. Even though the operator may feel that the food and services in his location are excellent, he must be receptive to constructive criticism. There is almost always room for improvement. Try to offer your customers the very best quality, selection and service available for your type of operation.

Most of your customers are employees who have limited time for purchasing and consuming their food and beverages. Try to make it as convenient as possible for them to be served and return to their offices on time. Allow them to serve themselves whenever possible. This usually speeds up service and lowers labor cost.

Packaged items should be well known brands which the customer is familiar with. If a new item is used, be prepared to give the customer information about the product. It is wise to sample new items first yourself before allowing customers to purchase them. Always give your customers truthful and helpful advice when you are promoting sales. Since today's customers are better educated, they are repelled by misleading or erroneous information. This is true even if you unintentionally give wrong information. Accuracy is very important if you are to have the customer's confidence.

Special services to the customer are essential to success. Part of the secret of keeping ahead of your competition is being first to offer extra values or improved services. In many cases, word-of-mouth advertising is the result of some form of special service to the customer. Customers usually expect two things:

1. Consistently courteous treatment.
2. Salespeople who are alert and helpful. The customers in food establishments expect quality food of course, but if the service is poor, the good food may never reach the customer's tray.

You must constantly have the attitude that "the customer is always right". The customer may appear to be arrogant, yet you must not express or show anger towards him. He may be ignorant, but you must not belittle him or his ideas. He may be demanding, but to the best of your ability you must attempt to meet his demands.

The customer is boss and whether your operation succeeds or fails depends to a great extent on how well you understand your customer. Gross sales are high only when the customer is offered products he wants, prepared the way he likes them. Keep in mind that dissatisfaction with your operation, or a slightly better approach by a competitor, can lead the customer to the competitor's place of business. One way to understand your customer is by analyzing your own buying habits. There is probably very little difference between you and your customer. Put yourself in the customer's place. Do you find the quality of food and service in your location to be as good as or better than your competitor? If it isn't, what can you do to correct it? Are your hours for business convenient to your customers? You may lose business because you are opening too late and closing early. Try to fill the needs of your customers better than anyone else. Build a reputation of top quality and service. If a customer wants butter on toast and you only have margarine, a sale can be lost. Short cuts on quality result in short cuts on profits.

Happy customers are your best salesmen. When people make a discovery they like to share this experience whether it be good or bad. When they like something they try to convince someone else to buy the same item; this reaffirms their judgment. It also gives them a feeling of being helpful to others.

Food service operators can offer special services such as catering or assisting with office parties. These usually are cake, punch, and coffee affairs and do not require much effort from the operator but create a large amount of good will between you and the customers when they are handled properly.

Many operators give their customers a free treat on special occasions

such as Christmas, grand openings and anniversaries. This is usually coffee and pastry.

Thoughtful gestures or expressions of congratulation to the customers, when appropriate, are other ways in which special services are rendered. Newspaper articles about the customers may be clipped from the paper and mailed to them with a note of congratulations if the publicity if favorable. One operator gives his customers a cup of free coffee on their birthdays. Promoting community affairs is another way to build good customer relations.

Strive to create an atmosphere of cheerfulness. Smile and most people will smile with you. Do an outstanding job of merchandising everything except your troubles. Keep your troubles to yourself since there is no consumer demand for them.

PERSONNEL RELATIONS

Good personnel relations require constant attention from management. There are many phases beginning with the hiring, training, and continuous supervising of personnel as long as they are in your employment. This lesson will acquaint you with some of the procedures involved.

Policy Making

The first step towards a smoother running operation and good management-personnel relations is the establishing of policy concerning employees. This policy should be posted for all employees to see. If there is no policy visable, the employees assume that there are no real rules and regulations. There are many reasons why a policy is beneficial. Some are listed below:

1. Instills respect for management.
2. Reduces uncertainty.
3. Helps to achieve fairness to all.
4. Encourages maximum efficiency.

The policy should state management's rules regarding salary increases, vacations, meals, rest periods, progress reports, causes for discharge, employee grievance procedures, and customer relations. Policy regarding many subjects may be combined together on one form or they may be prepared on separate forms. Policy will differ in each location; however, policy on salary, working conditions, and customer relations should be competitive with similar locations in the surrounding area.

Hiring

Hiring is simplified to a great extent if job description sheets are pre-

pared on each position to be filled.

A job description sheet is a summary of the important facts about a particular job. It states the job title, hours, salary, employee benefits, duties of the job, education and experience qualifications required. This sheet when combined with the actual duty sheet for the job will give the applicant a complete picture of what is expected of him. Job description and duty sheets on new positions will state your ideas on the duties to be performed, however, you should make revisions after the employee has been on the job for a while if conditions develop which you had not anticipated making changes necessary. Always strive for efficiency.

When you are interviewing, you should have a copy of the description sheets before you to explain the job to the person being interviewed. If the applicant is hired he should be given a copy to familiarize himself with his duties. Samples of duty sheets are included with this lesson.

If an employment agency is being used you should provide the interviewer with this information also. This will save you considerable time by avoiding applicants being sent to you who are unqualified or not interested in this particular position.

After you have decided what skills and qualities the ideal applicant for the position should have, determine also what kind of employee you would be willing to settle for if your ideal person is not available. Experience is not always necessary for some positions. Many unskilled people have a sincere desire to learn and are eager for a chance to prove themselves.

The first place to look for applicants is within your own staff if you have one. Never hire an outsider for a position if someone on your staff can do the job and if it will be a promotion for him. Check with your employees, purveyors and fellow operators for leads on applicants. The Business Enter-

prise Office can supply names of handicapped persons seeking employment. The Department of Employment is another source for applicants.

One of the most difficult managerial duties is the finding and hiring of the right employees, those who will be right for your location. The application form is a tool which can help make your task easier. A well organized application blank gives you facts to use as a basis for judging the applicant. Keep the application form as simple as possible but be sure to get pertinent information which will enable you to make an intelligent observation and decision regarding the applicant. The application should be a written record of certain facts -- education, work experience, names of former employees, and other references. If the applicant has good work experience, no other reference is necessary; however, if there is no work experience you should ask for the names of individuals who can supply you with objective information; this might be vocational counselors, school principals, teachers or others. Usually a friend of the applicant is not considered reliable reference unless the friend is someone you know. After the application has been completed, review it carefully before orally interviewing the person seeking employment. During the oral interview try to make the applicant feel at ease, encouraging him to talk about himself and his work experience. Ask specific questions: What was his last job? What were his duties? Why did he leave? How did his work tie in with the overall production? Was team work involved? As you talk to him evaluate his replies. Does he seem to know his business? Is he sincere? Is he evasive? Are there discrepancies in his story? If so, can he give a sound reason for them?

When evaluating his replies, be objective and unbiased. Don't allow personal prejudices to enter into it causing you to reject what might be the most qualified applicant.

After closing the interview, note your impression on the application form and continue interviewing if there are other applicants. After interviews have been completed, select applications of the most qualified persons and proceed to check references, in most cases the former employers. You may be able to verify reference by telephone or by sending a list of questions which can be answered easily with very few words. A reference letter is included in this lesson.

After you have verified the information on the applications you are ready for the final selection. Weigh the qualities of each candidate, one against the other, to see which way the scale tips. Keep in mind that the right employee will be one of your greatest assets while the wrong employee can be a tremendous liability. Good employees help to build business, creating better net profits for you, while wrong employees can be wasteful, create ill will and actually drive away customers.

Training the Employee

Poorly trained employees take longer to reach peak performance, often develop frustrations which are reflected in their work and make bad employees in general.

On-the-job training should be done in steps with the instructor organizing the information in the proper learning order. Avoid teaching a new man larger units of information than he can readily grasp. A better understanding of his position and the importance of team work is accomplished when the trainee has a general knowledge of the entire operation. The new employee should be instructed on the duties he is expected to perform and how they relate with the duties of his co-workers when team work is involved. A duty sheet listing duties and time schedules should be given to the employee. Review the duty sheet with him to insure his understanding of what is expected

of him. The following procedure is helpful:

1. Review the duty sheet together.
2. Assign new employee to his station, introduce him to his co-workers and make him feel as much at ease as possible.
3. Demonstrate how the job is to be performed, step back, allow him to do the job. If he does well tell him so. If he needs additional instruction, give it to him. Avoid making him feel stupid; encourage questions, create interest in the job, stress the key points, caution on areas of danger and instruct on preventative measures.
5. After the employee has learned his job well enough to work without constant supervision, you should continue to let him know how he is doing from time to time. Be generous with praise when it is due. Communicate with the employee, encourage him to be alert to new ideas and methods which help to promote efficiency. Be attentive to his suggestions and use them when they are good.
6. Be sure the employee is familiar with the employee policy established for your location. Be firm regarding all employees. Fairness creates respect.

Line of Authority

Employees should have only one direct supervisor, the person to whom they go for directions. Never have several people supervising an employee. It can only result in confusion and lessening of management's control.

Supervisors must have patience, poise and self control. It takes much character to be consistently fair. The ability to be forceful without being bossy or domineering is another essential trait. Requests of employees should be firm but polite. Anger must be controlled since it is very contagious and results in a situation where rational thinking is paralized and

sound decisions are impossible to make. The supervisor must constantly keep abreast of what is happening in the location yet not appear to be "spying". The relationships between supervisor and employee must be one of respect for each other. When employees impose upon management and show disregard for rules and regulations, the indication is that supervision has been too lenient. On the other hand, if employees will not communicate with the supervisor about their problems, appear sullen or worried, it is possible that supervision is too stern or harsh.

Supervising Problem Employees

The problem employee is one who, for some reason, doesn't contribute to your organization as you intended that he should. You may expect one thing, but he does another. Your first reaction may be to consider dismissal; however, training new employees is costly and time consuming. The intelligent procedure is to find out why, if possible, this employee performs as he does. Try to recognize his strengths and weaknesses and mold his assets into an efficient employee. Listed below are some of the problem areas:

Lack of communication may be a factor but usually the problem will involve more than this. If you have provided the employee with a detailed outline of duties which he is expected to perform, check to see if the employee understands and practices the correct procedure for achieving best results. Lack of skill can be frustrating and a few minutes of your time or that of your supervising employee can simplify what may seem to be a difficult task for this employee.

Misplacement can cause problems. Is this employee working in the position for which he was hired to do? Employees who are hired to work as stewards or bus boys may rebel when told to work in the dishroom. If there are unpleasant duties to be done, tell the person about them when he is being

interviewed for the job, not after he has been hired. If possible try to spread the undesirable work around so that several people are getting a little of it along with the more pleasant duties. Don't expect one fellow to do all dirty work and be happy about it.

Incompatability with another employee may be creating a problem. If you suspect friction, do not ignore it and hope it will go away, because chances are it will not go away but probably get worse instead. Try to find the difficulty and correct the situation if possible. It may be necessary to transfer the employee to another work area.

Inadequate Supervision encourages problem employees. Standards must be set for employees and they must be maintained if the employees are to feel a sense of pride and security in their work. If supervision is inconsistent the employees become confused. They do not have much respect for the boss who is very strict one day but lax the next. They never know if this will be the day they can't do enough to please him or if this might be the day they can get away without doing much of anything.

Emotional Immaturity creates a problem employee. The difference between an emotionally immature person and a normal person is this: The normal person has fewer emotional disturbances and if they do occur he is usually able to keep control of the situation. If you have employees who are emotionally immature expect to have more than the average number of employee problems since they lack self-control.

Physiological Deterioration or Poor Health. The human body changes constantly. Deterioration sets in early with some persons, later with others, but eventually with everyone. Sometimes it is sudden, as when an apparently healthy person suffers a heart attack. A problem employee is created when one believes his or her body is deteriorating and anxiety and psychological

fears interfere with the normal feeling of well being. An example would be: Employee suffers heart attack, nature and medical care may repair the heart damage; however, the employee may not be able to overcome his anxiety. His constant fear of another heart attack may cause him to be almost useless as an employee even though medical reports show complete recovery.

Handling the problem employee is complex. After you have found the cause, you must decide what corrective measures must be taken to help this employee become more productive and a happier human being. Not all problem employees can be rehabilitated but certainly an attempt should be made by management to help them overcome the problems. Dismissal should never be hasty.

Discipline

Reprimands are sometimes necessary. Whatever the cause, management must find out the facts. When more than one employee is involved, get each person's side of the story in private. Make certain that a reprimand is deserved before it is administered. It is most embarrassing to reprimand someone and then discover there was no basis for it. Remember to keep calm and use good common sense. Reprimands must always be given in private. Friction can usually be kept to a minimum if a reprimand is "sandwiched" in between two compliments. Example: Give the employee an honest compliment, make your reprimand, close the discussion with another honest compliment.

If a wayward employee does not respond to the verbal reprimand and continues as before,it is then necessary to give a written warning. Your employee policy should state what these warnings mean. For an example: First reprimand is verbal. Second reprimand on same offense is written. Third reprimand on same offense is written and will result in temporary suspension without pay. Fourth reprimand is written and warrants dismissal. Complete

written records on all discharge cases should be maintained, being specific on dates of interviews, offenses, warnings, witnesses, and other pertinent facts which will enable you to intelligently defend and justify your actions.

Firing or dismissing an employee is final. Temporary suspensions may be for only one or two days depending upon the seriousness of the offense. Employees are entitled to at least one warning, a hearing and chance to make good before being dismissed if the offense is not dishonesty. Poorly handled dismissals can result in loss of business, a breakdown in management-employee relationship, and a very unpleasant experience for all concerned.

Management must always have an open ear for employees' grievances. A little complaint ignored can "snowball" and create a major problem. It is usually the customer who gets hurt first by poor service, bad food and indifference in general when employees are unhappy. However, it is the operator who hurts most when business slumps. Customers can take their business elsewhere or circulate petitions for your removal. Your only alternative is to correct the situation or get out. Inharmonious personnel relations can cost an operator his business almost as quickly as poor sanitation. Never underestimate the value of well informed, properly trained employees. By maintaining good discipline, preventing violations of rules, you are protecting your investment and insuring your future.

RECORD KEEPING

An expert public accountant is invaluable to your business. He can help you to be a more successful business person by (1) helping you keep accurate records, and (2) analysis of those records. Through his association with similar business operations your accountant can compare your business with others. He can then analyze or help you to analyze your operation, whereby you can make any necessary changes which will improve your business operation, and/or increase the net profit.

Your accountant can ascertain percentages by comparing like business operations. Naturally there are individual circumstances which govern every place; therefore, fluctuations from the general average of percentages occur and should be recognized, but any excess over the established practice should be satisfactorily explained or eliminated. Any excess above good practice in any item, even though it can be explained, must be offset by subnormal percentage in some other items. AVERAGE OPERATING COST BASED ON PAST EXPERIENCES OF OPERATORS IN THE BUSINESS ENTERPRISE PROGRAM:

Food Cost: About 40 percent for food service operations and 75 percent for dry vending stands. This may vary from one location to another depending upon the amount of convenience foods sold. Convenience foods raise food cost percentage, however, they lower labor cost percentages.

Labor Cost: About 25 percent for food service and nil for dry vending stands. This varies also depending on the size and layout of the location, amount of work done by the operator, and the services provided. The operator should not allow the labor cost to exceed 30 percent. Vending stand locations

should have a very low labor cost to offset the high food cost.

Overhead expenses: About 10 percent -- this amount varies also depending on size and type of location. Some expenses which are included in this category are:

Insurance	Telephone
Taxes on employees	Cleaning supplies
Utilities	Business Travel
Laundry or linen	Dues and subscriptions

Employees' Meals: Employee meals should be taken into consideration as an expense. Debit this expense to labor, then credit this amount to food purchases.

Daily Payroll Report: A daily payroll report is required by law. It is also a valuable instrument for management control. Record the actual hours worked and salary earned for each employee. Comply with the existing laws concerning women and minors. These records provide information for salary increases, vacations, and absenteeism. They permit a close study of fluctuations in payroll in relation to volume of business.

Portion Analysis: Operators of food service operation should keep a complete record of the food prepared and sold in his location each day and the food cost of each item. These records should show how many entrees were served, number of salads, sandwiches, pies, etc., prepared, sold, or left over. The amount of coffee and other beverages prepared and sold. This record is invaluable in ironing out menu problems. The relative selling strength of high-cost and low-cost items will be revealed at a glance. It helps to eliminate over production of food and beverage items. It establishes the buying habits of the clientele.

Special Studies: Whenever cost or profit figures show a marked change, a special study of facts behind the changing figures is warranted. Many times one problem hinges on another and if the operator has kept accurate records he can usually find the key to the situation. Most accountants are eager to assist the operators and provide them with the necessary figures from past reports if they know exactly what the operator is looking for. The accountant should be informed as to what percentages the operator hopes to maintain on food, labor, net profit, etc. This places the accountant in a better position to assist the operator if a problem arises.

The percentage system is very satisfactory since it shows what items or areas have become excessive and immediate steps can be taken to ascertain the cause.

The value of an accounting system is not only a record of past expenditures and earnings but it helps to formulate more efficiency and greater profits in the future.

Records should be kept for several years for income tax purposes. Income tax and sales tax audits are less painful if accurate records are in order.

Daily records must be kept on total receipts, paid outs, and bank deposits.

A profit and loss statement must be prepared by the operator or his accountant and sent to the Department of Rehabilitation by the tenth day of each month.

Ask your accountant to keep you informed on laws, rules, and regulations which pertain to your type of operation concerning labor, safety, sanitation, and insurance requirements. Business Enterprise Officers can assist in these matters also.

INSURANCE

Basically, General Insurance can be divided into two major categories -- Property and Casualty. These major categories are further subdivided as follows:

I Property

A) Fire & Extended Coverages

B) Inland Marine

C) Burglary

D) Time Element

II Casualty

A) Bodily Injury & Property Damage Liability

B) Workmen's Compensation

C) Boiler & Machinery

As a general rule property coverage protects you as the owner of physical items such as real property, equipment, money and in the case of time element coverage, loss of income as a result of damage to physical items. Casualty coverage could be considered the opposite of property coverage in that you as the owner of "property" insured will not collect in the event of a claim but payment will be made to a "second party". Casualty coverage can be stated simply as protecting you against damage to others caused by you or your property.

A basic business insurance program should as a minimum consist of Fire & Extended Coverage and Bodily Injury and Property Damage Liability. Also, if you employ individuals state law requires that Workmen's Compensation

coverage be carried. Most serious losses are usually the result of fire, perils of extended coverage (windstorm, riot, aircraft, explosion and vandalism are a few of the extended coverage perils covered) and Bodily Injury or Property Damage to a second party.

The cost of this basic coverage is usually quite nominal. Fire Insurance premiums vary by location due to fire protection available, construction of building, and hazards within the individual risk. The fire rate in a typical state office building will usually fall in the .75 - 1.25 category. These are annual rates per $100 of coverage carried. The most serious exposure in a restaurant is of course the stove and flue arrangement in the kitchen. A number of fire protection systems are available which extinguish flue and stove fires. Because of the success of these systems in reducing damage all insurance companies allow a substantial credit on the fire rate when these systems are used. This credit generally ranges from 15 to 25 percent. Another way to make your fire insurance dollar go farther is to insure to value. The insurance companies, recognizing that most fires are <u>not</u> of a total loss nature, allow a credit in the rate as an inducement to insurance to value. Many individuals, feeling that their typical fire loss might only amount to 20% of their property, will insure only to this value and the result is a total loss to the insurance company in nearly every case. Because of the credits for insuring to value which amount to between 25 and 40%, it is really "false economy" to carry partial coverage as shown in the following example.

Total value of property 10,000.
Rate 1.00

Party A insures 50% to value
5,000 X 1.00 = 50.00 premium

Party B insures 100% to value
10,000 X (1.00 - 40% credit) 60.00 premium

In this example party B has twice the coverage for only 20% more premium, and also has adequate coverage for the total loss which strikes all too often.

The cost of basic premises bodily injury and property damage coverage depends on the size of the business insured. Basic B.I. & P.D. premiums are based on area (in square feet) and sales of the risk. B.I. & P.D. rates in Sacramento are .221 B.I., .023 P.D. These rates are based on 100,000/300,000 B.I. limits and 25,000 P.D. limits.

Products coverage, which is an extention of the basic liability coverage, is a must in a restaurant operation. Products coverage is in essence "failure of a product to perform as expected". In your case food poisoning would be considered a claim under products liability and the resultant bodily injury to a customer would be covered under this part of the liability contract. The premium for this extension of coverage is based on total annual sales. For a Sacramento restaurant using 100,000/300,000 limits the rates would be .432 per year per $1000 of sales.

Workmen's Compensation coverage is required by state law in any business employing others. Workmen's Compensation provides medical payments, loss of wages, and disability coverage to employees of a business. Rates for this coverage using a restaurant classification are $2.00 per $100 of payroll.

Now that we have covered basic protection, the prudent businessman might wish to further protect his investment by extending his basic protection to include some or all of the following:

I Inland Marine

A) Commercial property floater

This extends the basic fire contract to cover "all risks of physi-

cal loss to equipment and stock excluding basically flood, earthquake, war, and normal wear.

B) Valuable Papers and Records Coverage

This covers, on an "all risk" basis, the cost of recreating valuable papers and records. The cost is almost negligible in that $10 will purchase at least $2000 coverage.

II Burglary

A) Inside and outside robbery

This covers money against robbery during business hours or robbery of a messenger enroute to a bank.

B) Safe Burglary

Covers money against burglary of a safe while premises not open for business.

C) Broad Form Money Coverage

This is an "all risk" type contract in that it provides money coverage without limiting the type of loss or where loss occurs. This form does not cover mysterious disappearance or employee infidelity. This is the broadest form of money coverage available.

D) Mercantile Open Stock Burglary

Covers loss of merchandise and equipment as a result of burglary while premises closed.

III Time Element Coverage

This is called the most often neglected phase of property insurance. Time element or loss of income as it is more commonly known, provides a continuing flow of income during period of inoperation as a result of a peril insured against. Perils covered can range from fire only to an "all risk" basis. All too often a businessman may

have coverage for his property in event of loss, but because of the delay in getting back into operation he has no funds to provide him with an income and for this reason many businesses don't reopen after a serious loss. There are many forms of business interruption coverage available and it is recommended that this coverage be thoroughly discussed with your insurance agent to determine the form best suited to your needs.

The items covered in this presentation are the common forms of protection available. Insurance is a complicated field and the selection of coverage is not to be taken lightly. There are available many forms of protection not mentioned in this presentation. It is recommended that you select a good independent agent and discuss with him your business operation. He can then recommend the proper coverage and select the company with the best rates commensurate with good coverage and service.

MERCHANDISING

In vending and food service establishments, merchandising is usually an open display of items to be sold. The displays should have eye appeal and be arranged in such a way as to promote a free flow of customer traffic.

Merchandising should stimulate the customer to buy your products. Everything should be arranged artistically. Harmonious colors should be used wherever possible.

Vending stand items should be arranged neatly on clean shelves or other display areas. Always keep the stock fresh and provide a good assortment.

Location of displays can promote sales. In cafeterias, desserts are often placed on the serving line first so the customer will place the dessert on his tray before taking a salad and hot entree. The reason being that he will probably be more apt to take a dessert if his tray is empty but less apt to take a dessert if he has a tray which is almost full. Once the hot food is on the tray, the customer is more hesitant about taking additional items except for a beverage. Therefore, the last two stations should be hot entrees and beverages. Another reason for this setup is that the hot entree and beverage will have less time to cool off if it is placed on the tray immediately prior to the customer taking his tray to the table. There is less chance of spills if the beverage is put on the tray last expecially if the scramble system is used in the serving area.

The serving counter should be set up to enable the customer to see all the items for sale and to be served by courteous employees or to serve himself if self-service is possible.

The use of appropriate dishes is essential for good merchandising. The dish should never be so large as to make the contents look small or skimpy but must be large enough to prevent spillage and allow for serving or carrying the dish with ease.

Example: If a piece of pie is placed on a dish too small, it may spill over the edge of the dish causing a mess on the serving counter and also making it very difficult for the customer to handle.

The dish serves as a container but enables a great deal of merchandising since its rim serves as a frame to enhance the appearance of the contents. Scrutinize your china and then decide how the food should be placed on or in it and also what size plates or bowls should be used for salads and desserts. If there is a border design, try to keep the contents inside the border. Discard broken or chipped dishes immediately. Your dishes and tableware must always look and feel clean. Serving employees should wipe rims of plates to remove gravy drips.

Serving of the hot entree is an art and enables the use of numerous merchandising techniques. Unfortunately, the large cafeterias are so rushed at lunch time there is little time for the chef to demonstrate his carving abilities and most carving must be done in advance to allow the customers to be served quickly. When time allows, it is desirable to have the chef carve the roasts, hams and turkeys in front of the customers. This creates interest, assures the customer of freshness and minimizes loss of flavor and juices from the meat or fowl. Exhibition cooking is another means of merchandising.

Attractive menu boards or signs help to create interest in the items to be sold. Cleverly worded signs suspended in the air, using a wire or string, quickly draw the customer's attention to the item you are promoting.

At a vending stand on a rainy day, this might be rain bonnets for the ladies or on hot days, it might be something cool and refreshing.

When you travel, look at a book, watch television or listen to the radio. Be alert to the merchandising to try the unusual as long as it is in good taste. Purveyors usually have excellent suggestions on how to merchandise items. They often provide display shelves and racks free of charge for as long as their products are being used.

The consumer is buying more than ever before. Your merchandise should sell if it is useful, has quality, is priced competitively, is properly displayed in pleasant surroundings and courteous service is given.

SERVING LINE SETUP

The cafeteria line is your showcase. The way you display your products and write your menu board may be the only visable merchandising you will perform. The following is a suggested outline which has proven successful in many locations.

Beverages: Coffee should be brewed in advance. Sugar, cream, teaspoons, stir sticks and cups should be easily accessible to the customer. Ice tea, lemonade and punch glasses should not be filled with ice and beverage until shortly before serving them to the customer to prevent a watered down flavor. Fruit juices should be easily distinguishable by the use of color. Separate rows of juices which are similar in color such as orange, pineapple and grapefruit by placing rows of tomato or grape juice between them. Most fruit juices and cold beverages seem to sell better if displayed in a bed of ice. Use the same display system each day so that customers know at a glance what they are getting. Customers are creatures of habit and they like to know where to look for each item avoiding confusion and loss of time.

Sweet Rolls: Most people prefer warm sweet rolls. Care should be taken to warm the rolls without allowing them to become dried out and hard. Butter should be available to those who desire it. A few sweet rolls should be kept out of the warmer for customers who prefer them cold. Rolls which have been heated cannot be reheated for future use and have the same quality, texture and flavor as they previously had when heated the first time. The leftover heated rolls can be used in puddings and other desserts very

satisfactorily. Leftover unheated rolls can be wrapped in foil or plastic bags and refrigerated or frozen for future use. They retain their freshness very well if handled properly. These refrigerated or frozen rolls should be heated before serving.

Fresh Fruits: Grapefruit should be cut in half and around each segment. Garnishes of cherry halves can be placed in the center to make it more attractive. Once the grapefruit has been cut, it will deteriorate rapidly. Do not serve cut grapefruit the following day. Scoop the segments out and store them in a covered container to be used in a grapefruit salad the following day. Dishes of sliced peaches, prunes, figs, fruit cocktail, melons, oranges, banana slices and many other variations make excellent sellers when displayed attractively on a bed of ice.

Salads: A combination of vegetables such as fruits, meats, cheeses and dairy products served in various bowl sizes and plates with an assortment of dressings will give you your greatest opportunity to merchandise artistically. Salads should also be served on a bed of ice. Salads should always be garnished with an appropriate garnish. The radish rose, olives, cherry halves, carrot curls and sprigs of parsley appear to be the favorites of most salad makers since they lend so much eye appeal.

Desserts: Cake should be covered with Saran Wrap if it is cut into slices and put on display for several hours because it dries out quickly. Pies should be cut in wedges and the point of the pie should be turned towards the customer. Cream pies should be displayed on an ice bed to prevent spoilage but fruit pies are best served at room temperature. The crust of fruit pies becomes soggy if it is placed on the ice bed since it is not as

resistant to moisture as the crust of cream pies. Puddings and gelatine in tulip dishes make very attractive displays. Desserts can be garnished with whipped cream, fruit or nuts.

Steam Table: The hot pans of food should be attractively arranged and garnished. No matter how delicious the flavor may be, the food will not sell if it does not look attractive. Usually a choice of at least two entrees is recommended. Hot sandwiches, soup and perhaps chili beans should complete the menu. It is commonly agreed that better service and a higher quality of food is obtained when the menu is limited.

Cold Sandwiches: A variety of cold sandwiches may be prepared and wrapped in advance. The State law requires that these sandwiches be refrigerated. Most operators remove the sandwiches from the refrigerator just prior to serving time and place them on shelves with the labels turned towards the customers which allows the customer to help himself. A different color of label for each price proves helpful to both the customer and the cashier.

It would be impossible to list all the different ways to merchandise the cafeteria line since each place is different and new ideas are being born each day. Operators are usually eager to assist the new operator by sharing merchandising techniques which have been profitable to them.

PURCHASING

One of the most important functions of food service is that of purchasing food and supplies. The price you pay for food will help to determine the price necessary for you to charge to make a profit for your operation.

In order to get the most for your dollar, you should know the cuts of meat, know how fresh fruits, vegetables, canned and frozen foods are graded and packed. You must also know reliable marketing outlets. It is also necessary to keep a general knowledge on crop conditions and current trends. Of course, you must be familiar with menu requirements and the food preparation facilities available. You should also be familiar with the methods of cooking. This will enable you, the buyer, to select types of food best suited to the needs of the food service for which you are buying.

What affects the price of food? Prices vary from season to season and year to year. These fluctuations may be great or small. Eggs today may be as much as 100 percent higher over a year ago or they may have decreased in price. Butter, a great fluctuator, varies from month to month. Lettuce can be five cents a pound in some areas while in others it may be as much as twenty-five cents a pound. Caviar is an inexpensive food in Finland but in the United States it is a costly delicacy. These are only a few of the reasons why you must be informed on current food prices and their relative values. You are required as a food buyer to have a basic knowledge of why these fluctuations occur.

The price of any commodity is determined chiefly by its supply and demand. If supply of a product such as lettuce is great, then the price will be lower. But if the crop was poor, there will be less lettuce on the market which means the demand is greater and, therefore, the price of the lettuce is greater.

This supply and demand is controlled by several things:

1. Crop, the amount produced.
2. Government subsidies, price control and other regulations which are supposed to help the farmer. These government regulations act as a means of keeping the prices of various essential foods at reasonable levels.
3. Cost of production influences product cost. If labor is high, so are production costs.
4. Difficulty of production. The farmer may have poor production due to irrigation, insect infestation or a number of other reasons.
5. Weather can control supply. Weather can be too hot, too cold, too wet, etc.
6. We find that fashion is a factor in price control. People's eating habits change from meat and potatoes, for example, to meat and salads.
7. Transportation and refrigeration costs are involved in price control. The cost must be covered by the selling price.

The basic yardstick in food purchasing is not the lowest price or the greatest quantity for the money. Rather it is the "yield" or quantity of cooked, edible food produced or yielded from a given quantity of raw food purchased.

Example:

A rib roast cut of beef boned may yield servings at a lower unit price than a lower price cut of beef which includes waste in bones and trimmings.

For these reasons, the principles of specification buying have been widely adopted in well managed food services. Specification buying involves four steps:

1. Buy food items that are best suited for use in your particular food service. This can be accomplished through testing of recipes, buying grades and needed quantity.
2. Keep a record of what you use and specifications on quality and quantity.
3. Give your specifications to your salesmen, wholesaler, etc. Buy to meet your specifications at the lowest possible price.
4. Check delivered items to see that they meet your required specifications.

Labor cost is a vital factor today. Frozen vegetables, for example, generally cost more than fresh vegetables but they require less actual labor preparation. You gain on labor cost and also receive uniformity as well as superior off-season quality which could easily offset the additional cost.

Many food items come in individual servings (i.e., milk, buttermilk, jellies, catsup, mustard, soups, juices). Meats are available in fabricated cuts. Pies, pastries, rolls, muffins, etc., can be obtained in finished or frozen forms or mixed and shaped ready for baking. Prepared cake and bread mixes, icings, puddings and soup bases are widely used in ready-to-serve or partially prepared foods.

You as a buyer must keep in mind yield overall food and labor costs when considering this type of food item as compared to conventional methods of cooking.

Food purchases are broken down into three groups:

1. Perishable foods: meats, poultry, seafood, fruits, butter, eggs, etc.
2. Staple foods: groceries and canned goods.
3. Contract items: coffee, milk, ice cream, bread, rolls, etc., which are usually purchased on a contract basis.

To purchase staple foods, you or your assistant will either check the market yourself or use telephone orders. In either case and especially when you telephone in an order, be sure to inspect the food products when delivered to insure that your specifications have been met.

REMEMBER: Buy only the amount of perishable items necessary to meet menu requirements. You can't buy in monthly quantities and expect to serve fresh vegetables at the end of the month.

Staple foods on the other hand can be purchased in large quantity, if you have storage space and you gain through savings. Staple food items include flour, sugar, spices and other food items that are purchased weekly. This is usually done on a weekly basis by telephone or a salesman visiting you. This may not be done weekly but monthly or quarterly or even annually.

Contract items usually require daily or weekly deliveries. Milk, ice cream, bread and coffee are usually purchased on the basis of negotiated contract. The price may be on a sliding scale depending upon total yearly volume. Government institutions usually operate on a sealed bid basis. In order to receive sealed bids, the operation mails requests for formal bids

to supply houses. The sealed bids are opened on a specified date. Many times bonds are required to guarantee your suppliers performance.

You will be buying by one or perhaps by a combination of these methods.

1. Open market buying: Used in 95 percent of all commercial operations. Here you are requesting price quotations from one or more dealers. You will place your orders where terms are to your advantage including the elements of price, yield and service.
2. Sealed bid purchasing discussed previously includes requests for formal bids to be opened on a specific date. Almost never used in commercial operations but is used by large hospitals, institutions schools and government agencies.
3. Future or contract purchasing is buying for a future delivery date at a current or future price. Usually used by volume purchasing operations in a calculated attempt to insure a supply at a favorable price. This is speculative buying whether in future or in over-stocking at current prices in anticipation of price rises. Not recommended for general operations. Usually your jobbers will be concerned with this type of buying.

The next step we should discuss is where to buy. The major sources of supply usually available to food buyers are:

1. Wholesale Supply Houses: These supply houses buy on a large scale and distribute many items. They act as jobbers, accumulating many varities of merchandise from numerous sources and offering them for demand sale.
2. Manufacturers and Packers: These organizations may sell strictly to the wholesaler or directly to the operator or both. Ice cream, condiments and major meat packers make their products directly available to the users.

3. Local farmers and producers in some areas will be the source of fresh fruits and vegetables and for farm and dairy products.

4. Municipal Markets: Primarily for wholesalers, they are located in large cities and offer many good buys to the keen buyer.

5. Cooperative Associations consist of many producers who combine for the benefits gained through central and large scale distribution and selling. Dairies and fruit grower cooperatives are most common.

6. Retail Food Store available for emergency use. Some chains will offer advantageous prices to those who buy good sized quantities.

We have discussed meat grades. But how is the grading done? Grading is done by concept. The grader carries a picture in his mind of what constitutes a grade and fits each carcass or cut into the picture. If a part of the carcass does not measure up to his mental picture of the highest grade, then the carcass is graded down one or more points for each deficiency. Meats are graded by Federal graders in accordance with three basic characteristics:

1. Conformation: The general form and structure of the carcass which involves ratio of bone to total weight.

2. Finish: Color, type and distribution of the fat throughout the carcass. "Marbling" is one of the characteristics that is evidenced in the fine lines of fat running through the meat.

3. Quality: This is an overall appraisal of the carcass, taking into account its potential tenderness and palatibility when cooked.

Let us review grades of meat again:

Beef	Pork	Veal and Lamb	Mutton
Prime	U.S. #1	Prime	Choice
Choice	U.S. #2	Choice	Good
Good	U.S. #3	Good	Commercial
Standard	Cull	Commercial	
Commercial			

Grades below these are known as utility, Cutters and Canners. They are not usually available to the institutional trade but used by packers in preparing processed meat products.

About six percent of all the beef falls into the prime category. Most institutional food services now use "choice" for roasting and broiling and "good" or "commercial" grades for ground meat dishes and stews. The flesh in the better grades of beef is a bright cherry red, elastic and firm to the touch, fine grained, smooth and velvet, well marbled and coated with fat of a white or cream color. It has a pleasant odor. In the lower grades, it is medium to dark red in color, coarse grained, deficient in fat, with little or no marbling. The fat may be soft, flabby, yellow and unevenly distributed. The flesh is usually tough and the bones may be hard, white and flinty.

The better grades of veal are those in which the flesh is fine grained, light pink in color, somewhat firm, moist and velvety to the touch. There is some fat present which is white and brittle. The bones of veal are soft, red and small.

Lamb is from an animal twelve months or less whereas mutton is from an animal over twelve months of age. The flesh of mutton is firmer and deeper in color than lamb but in the better grades both are fine grained,

firm and reddish pink in color. The fat of mutton is white and firm. Lamb fat is less hard than mutton and is creamy and slightly pinkish in color. In good mutton or lamb, the carcass is covered with a layer of firm fat. Fat is also found around the kidneys.

Some pork is federally graded but not indicated on the meat for consumer use. The flesh of pork in the higher grades is fine grained, firm, velvety and well marbled with fat. The color of the flesh varies from a light pink to a grayish pink according to the age of the animal. The fat is white and firm and the bones are soft and red. Good pork has practically no odor.

In buying meat, the choice of cut is important. Whether a tender or less tender cut is chosen should be determined by the method to be used in cooking it, the price and the amount of money available for its purchase. Tender cuts are more expensive per pound but keep in mind that after waste and shrinkage the tender cut may prove to be less expensive than the tougher cut. Remember, you can also buy prepackaged and frozen meats.

Poultry for our use will usually be bought in the Grade A and B rather than Grade AA or Grade C. Eggs are also graded as follows:

The grading depends upon clearness of the white, blemishes of yolk, size of air cell within the egg and condition of the shell.

Fancy, Fresh or AA: The very highest quality table eggs. An egg of AA quality covers a small area when broken into a plate, the white is very thick and stands high, the yolk is firm and high and it is well centered.

Grade A: High quality table eggs. The A quality egg covers a moderate area, the white is reasonably thick and stands fairly high, yolk is firm, high and well centered and it spreads more.

Grade B: Table eggs which are also used for baking and cooking. They cover a wide area, have small amounts of thick white, the yolk is somewhat flattened, enlarged and off center.

Grade C: Used only in cooking. An egg of C quality covers very wide area, white is thin and watery, yolk is flat, enlarged, off center and breaks easily.

Eggs are not only graded according to quality but also size.

Jumbo	30 oz.	1 dozen
Extra Large	27 oz.	"
Large	24 oz.	"
Medium	21 oz.	"
Small	18 oz.	"

One dozen large eggs weigh a minimum of one and one-half pounds at sixty cents a dozen. Large eggs cost you only forty cents a pound. Always compare egg values on a pound basis with other foods and you will agree that eggs are a good low-fat, high protein buy.

Butter

Butter is graded by the "score" based on 100 points for perfection. The score given depends upon color, flavor, body, salt content and freshness.

When purchasing butter known to be produced under sanitary conditions, the flavor and color are probably the most important considerations. The texture should be firm and waxy, the color uniform and somewhat pronounced. The price of butter depends greatly upon general market conditions.

Actually, butter with a score of 93-95 is the best obtainable in the market. In general, butter used for table purposes is 92 score or better while 90 score is used for cooking purposes. When you do your purchasing, you will find a market quotation sheet an asset to keen buying.

The market quotation sheet lists the various items regularly purchased, the quantity needed and three or four columns for listing the prices quoted by different suppliers. Quotations are usually received by telephone and the lowest bid can be circled for placing an order. When you use the market quotation sheet, be sure that the specifications involved are clearly understood by both parties through established practices.

When you purchase orders, you will receive a copy of the order. It should show the date issued, name and address of vendor, quantities, descriptions, unit prices of the goods ordered and delivery conditions required. The purchase order provides a complete record of the transaction for the guidance of the purveyor as well as the institution.

Purchase Price Record and Specification Card

It is a good practice to keep a card, or some type of record, showing prices paid for a given commodity. It saves time looking up previous invoices and shows at a glance the price trend of that particular item over the year or years. You can list the specifications at the bottom of the card.

Many companies you do business with will give you a cash discount when you establish a relationship of promptly checking and approving invoices for payment. The people you do business with will work for you if you maintain a friendly relationship. Treat all people with courtesy. Consideration shown by the buyer in not keeping the salesman waiting longer than necessary will be appreciated. The salesman will often be the bearer of new ideas and will keep you posted on important market trends and conditions. However, you must limit the time you spend with salesmen.

It is one thing for the buyer to order food or supplies. It is equally important to make sure that the food service receives exactly what has been ordered. Errors frequently occur and unless a careful check is made of

count or weight (or both) and quality as well, substantial losses can take place.

Definite responsibility for receiving stock should be placed upon one individual. He must be mentally alert, accurate and have some food knowledge. He must be trustworthy. His principle function is to count and/or weigh the various items delivered and accurately record their receipt. He may also check quality or this may be done exclusively by the manager.

Fish

Each section of the country has its own seafood. For example, lobster and oysters come from the Atlantic seaboard and salmon from the Pacific. The Great Lakes abound in whitefish and Southern waters furnish Spanish mackerel, shrimp and red snappers. Fish may be purchased in many forms such as fresh, frozen, canned, mild cured, pickled, dry salted and smoked. The first four listed above constitute the bulk of the industry. Quick freezing and modern refrigeration have made it possible to ship fish to inland markets so that restaurants in the Middle Atlantic States and on the Pacific Coast may serve seafood from the shores of New England or the Gulf of Mexico. Since the freezing is done as soon as the fish is taken from the water, the product retains the qualities of the fresh article. Usually only the highest grades are put through this process so that the quick frozen fish may be superior to the so-called fresh fish unless the fresh fish is carefully handled. Quick frozen fish does not require thawing before cooking but more time must be allowed for cooking. Whenever they are thawed, they should be used immediately. This process has brought availability of fish to all.

There are two classes of fish; fat and lean.

Fat Fish	Lean Fish
Salmon	Cod
Mackerel	Haddock
Shad	Flounder
Butterfish	Pollock
Halibut	Pickerel
	Perch
	Smelts

For cooking purposes, the fat fish should not require much added fat. Baked haddock would be very dry if some precaution were not taken such as basting frequently or strips of salt pork laid upon it during cooking.

Check list for judging fish:

Good Fish:

1. Full, clear eyes
2. Skin bright
3. Scales tight
4. Gills bright red
5. Flesh firm and elastic, does not keep a dent when pressed with the finger.
6. Smells fresh, both inside and at the gill
7. Body stiff
8. Whole fish sinks in water
9. Flesh sticks firmly and close to the bones

Canned Foods

Buying must always be judged by its overall effectiveness and never by price along. For instance, if you were to buy a can of peaches for five

cents less per can but would get two servings less, you would have lost fifteen cents by buying this way as you could have sold two more servings. It is very important to take time to go into the kitchen and cut cans comparing different brands so that you will know how many servings you will get from each. By doing this, you will have a record that you can refer to. In these tests, drained weight, count, quality, density, clearness of syrup and uniformity of product are taken into consideration.

Government grades for canned fruits and vegetables are as follows:

Grade A - Fancy

Grade B - Choice

Grade C - Standard

No food purchasing department can operate efficiently unless there is an established routine and system to provide a framework for the mechanics of buying. The routine will vary to fit the needs of different establishments. It must always insure the coordination of the purchasing, receiving and preparation departments.

Definitions and Terminology

Elberta Freestone	Variety of soft peach
Yellow Cling	Variety of firmer peach and the most usual one used.
Brix	Measure to determine the amount of sugar in a syrup.
Count	Number of units in a given container.
Servings	To institutional user usually means how many half cup servings to container.

Avoir	Refers to measure in weight.
% S.G. (Specific Gravity)	Weight of product compared to equal volume of water.
Solids	Amount of solid product in given quantity.
Fluid Ounce	Measure of volume (quart is 32 ounces).
Sieve	Diameter measure of product; beans and peas usually run one to six sieve.
Blue Lake Green Beans	A variety of bean grown in the Northwest; is tender, sweet, excellent in color, flavor and texture.
Shelf Life	Length of time a product may be stored without loss of flavor or deterioration.
Head Space	Difference in depth from container closure to level of product.
Swell Allowance	A trade practice permitting a defined discount in lieu of replacing process damaged goods. In fruits and vegetables it is usually 1/8 of one percent.

Drained Weight	Net weight of product when all excess liquid has been allowed to drain through standard ½ inch mesh screen for specific time.
Bartlett	Specie of large, firm yet tender pear best produced in Oregon and Washington.
York	Specie of apple used because it will take up to about 100 degree F. more heat in cooking. The bulk of pack produced in Shenandoah and Pennsylvania Valley Regions.
Garnish	To ornament with something bright and savory.
Entree	Main dish of the meal.
Maraschino Cherry	A sweet cherry, bleached, pitted with no stem and manufactured in syrup usually colored red.
Cocktail Cherry	A sweet cherry, bleached, pitted with stem on, manufactured in syrup usually colored red and used in cocktails.
"Opening Price"	Term designating the initial price named by canner at beginning of product canning season.

"Booking"	Trade term meaning amount of merchandise to be tentatively set aside for buyer, later to be covered by contract. The understanding is that if quality and price are right, booking will be set up as contract.
Bostwich Meter	Measuring device used to determine rate of liquid flow of tomato product. Used in Ketchup, Puree and Paste grading.
"USDA" Continuous Inspection	Inspection by government graders that production is not adulterated and that it is within specified grade.
Shipping Performance	Average quantity shipped during a specified period. The usual reference is to one month's shipped volume.
Goods in Transit	Merchandise delivered by canner to public carrier till carrier delivers to destination of purchaser.
Palletized Load	Quantity of merchandise that can be fitted to pallet. This means easier handling and less

	breakage or pilferage and lower carrier rates.
"Water Car"	Unit of weight meaning a quantity of 10,000 for small car and 20,000 pounds for large car.
Preserve	Fruit or berry that has been prepared using quantities of sugar and whole fruit.
Jam	Fruit or berry that has been prepared using quantities of sugar and usually mashed fruit.

Abbreviations

E.H.S.	Extra Heavy Syrup
H.S.	Heavy Syrup
L.S.	Light Syrup
N.J.	Natural Juice
Asp.	Asparagus
A.G.	All Green referring to Asparagus.
MM/Lg.	Mammoth Large referring to Asparagus.
W. and G.	White and Green referring to Asparagus.
P.A.	Pineapple
Y.C.	Yellow Cling
S.G.	Specific Gravity
FCY.	Fancy (Reference to Grade)

Ch.	Choice (Reference to Grade)
Std.	Standard (Reference to Grade)
S/Std.	Sub-Standard (Reference to Grade)
C.I.F.	Terms used by some companies meaning "Cartage, Insurance, Freight". Here buyer pays all charges from side of ship where applicable.
U.S.D.A.	United States Department of Agriculture.
CWT.	Per hundred weight.
MM	Milligram; measure of weight, metric scale.
F.O.B.	Freight on Board meaning that freight is to be paid by purchaser from point designated.
B.A.I.	Bureau of Animal Industry.
S.P.	Solid Pack.

FOOD COST

Assuming the proper methods of purchasing, receiving, storing, preparing and cooking are being followed, the essential steps in controlling food cost are as follows:

1. Establishing standard portions and making sure these standards are followed.
2. Determining the exact unit cost of each standard portion.
3. Establishing uniform menu prices based on these unit portion costs and the overall food cost percentage that has been decided upon.

Percentages Vary

Food cost percentages vary in different eating establishments depending on the type of operation, the clientele and the menu. Many establishments aim at a 40% food cost. This means that the total cost of all foodstuffs purchased by that business is equal to 40% of the sales. A meal or an item that sells for $1.00 has a raw food cost of approximately 40 cents. A meal that costs $2.00 would have a raw food cost of 80 cents.

The term "raw food cost" is the cost of all food items brought into the food service. It includes transportation and delivery charges but should not include labor or any other expense entailed in the handling or processing of the food once it has been delivered.

Determining Food Cost

The most accurate method of computing the raw food cost where several items are being used, as in a tossed green salad, is to determine the cost per ounce of the usable product.

Example:

Lettuce costs $2.40 per crate of twenty-four heads and the cost per head is ten cents. Clean, core and weigh three or four heads to establish the average weight per head. This example shows four heads weigh four pounds or one pound per head. Divide the cost of the lettuce by the weight of the lettuce to arrive at the cost per ounce ($.10 divided by 16 oz. = $.0062). Computations can be made more easily if you round off the fractions to the nearest one-fourth or one-third cent. Rounding off $.0062 = two-thirds cent per ounce of lettuce. Once the unit cost has been established, it is only necessary to know the weight being used per serving to arrive at food cost. If a piece of lettuce for sandwich weighs one-fourth ounce, the cost of the lettuce for sandwiches will be one-sixth cent. This method of computing food cost should be used for all items when only a portion of the whole product is being used such as slices of tomato, cucumber, etc.

Unit cost is determined on some items by dividing the cost of the item by the total count.

Example:

No. 10 can of olives costs $1.50. A can contains approximately 500 olives (divide $1.50 divided by 500 = .003). One olive costs approximately one-third cent.

This method can be used when you know the total count of items in a package or can. The label may list the count. The salesman of the product usually knows approximately the total count. You may determine the total count by weighing a portion of the can.

Example:

No. 10 can of sliced beets holds six pounds, eight ounces or 104 ounces drained weight at a cost of 90 cents. To determine the number of slices

of beets without counting each slice in the can, the following procedure is followed:

Take out two ounces of the beets and count the number of slices. This example showed five slices of beets in two ounces. Since there is a total of 104 ounces, divide by two ounces to find the ratio of two ounces to 104 ounces. 104 divided by two equals 52, indicating two ounces equals 1/52 of the total can. Five slices times 52 equals 260 slices in a #10 can. To find the cost of a slice of beet, do the following:

The cost of a can of beets, 90 cents divided by 260 slices = .0034 or one-third cents per slice.

Always use the net weight after draining to make food cost computations if the liquid is not to be used with the product. Even though the liquid or broth is to be used, an adjustment should be made in the actual food cost of the product.

Example:

Canned ham costs 80 cents per pound for ten pounds. The actual weight of the ham may be only eight pounds with two pounds of liquid and excess fat on the ham. The ham costs 80 cents per pound or $8.00. Since there is only eight pounds of ham after removing the excess fat and liquid, the ham is actually $8.00 for eight pounds or $1.00 per pound. The two pounds of liquid and fat will probably be used in soups and seasoning for other foods but it should not be given any dollar value per pound.

Pricing

The following method is used to determine which multiple factor is needed when the raw food cost has been established and the selling price is being determined.

If a 33 1/3 percent food cost is desired, divide 100 percent by 33 1/3 percent which equals three. The food cost of each item to be sold will be multiplied by three.

Example:

Food cost is 15 cents for a salad times three = 45 cents selling price.

For a 50 percent food cost, 100 percent divided by 50 equals two.

Cost of entree 35 cents times two equals 70 cents selling price.

For a 40 percent food, 100 percent divided by 40 equals two and one-half.

Cost of entree 35 cents times two and one-half equals 87 and one-half cents or 88 cents selling price. However, if odd-cent prices are not being used, this entree would probably be priced at 85 cents or 90 cents.

It is not always possible for every item on the menu to be sold or merchandised at the same percentage of food cost. Some items may permit a higher mark-up than others depending on many factors such as habit or custom, general availability of the product, competition, clientele and luxury of service and surroundings.

Some items, expensive in cost alone, may not allow a high enough mark-up to be profitable items. However, they still may be carried on the menu perhaps as a necessary item because of competition. This is why food costs must be averaged. The high food cost items are usually balanced out by the low food cost items.

Milk, for example, may be sold for 10 cents per eight ounce container. Cost of milk may be 7 cents which is a 70 percent food cost. Coffee helps to offset the high food cost of milk since a cup of coffee costs approximately 2 3/4 cents per cup and the selling price is 10 cents per cup allowing a low food cost of 27 and one-half percent.

High food cost items are often offset by low cost foods such as macaroni, hash, cheese dishes, gelatin salads, desserts and soups.

Cost and portion control information should be kept on all food prepared. This can be done on index cards or in book form such as Russ Gruber's salad recipe and cost control book. The unit portion cost of an entree is found by dividing the total cost of the prepared food by the number of cooked portions to be yielded. Portion instructions should be duplicated separately for the kitchen and the counter serving staff. If the chef has prepared an entree to serve fifty people, the serving staff must have this information in order to know what size portion to serve.

CONVERTING RECIPES

Excerpt from "The Professional Chef"

The basic formula for converting recipes to provide different number of servings is given below.

1. Divide the required number of servings by the original number the recipe is for:

$$\frac{\text{Required number}}{\text{Number recipe is for}} = ?$$

2. Then, multiply each ingredient by the resultant answer:

$$\frac{\text{Required number}}{\text{Number recipe is for}} = ?$$

3. The resultant answer from Number 2 times each ingredient equals the required amount of each ingredient.

Example: 50 portions

Rice (raw) 1 3/4 lb. (28 oz.)

Ham (cooked) 8 lb.

Cheese Sauce 5 qt.

$$\frac{\text{Required number}}{\text{Number recipe is for}} = ?$$

4. The resultant answer from Number 3 times each ingredient equals the required amount of that ingredient. To change the recipe to 30 portions (round figures): $\frac{30}{50} = .60$

.60 x 28 oz. = 16.80 oz. or 17 oz. or 1 lb., 1 oz.

.60 x 8 lb. = 4.80 lb. or 4 lb., 13 oz.

.60 x 5 qt. = 3.00 qt. or 3 qt.

New recipe which serves 30 portions:

Rice (raw) 1 lb., 1 oz.
Ham (cooked) 4 lb., 13 oz.
Cheese Sauce 3 qt.

TOOLS AND EQUIPMENT

No cook will be able to prepare recipes unless he has a thorough knowledge of kitchen tools and equipment.

Knives and Hand Tools

To the experienced cook, knives are of the greatest importance. For speed and for the professionally finished appearance of his work, cuts must always be clean and accurate.

For this reason, most good cooks purchase their own set of knives. They mark them plainly, take care of them themselves and permit no one else to use them.

There is an almost infinite variety of styles and types of knives, hand tools and cooking utensils. These presented here, however, are the most generally encountered types.

French Knife: Most used of all. Wide, functionally curved, pointed blade. Used for slicing, chopping and mincing food. Most popular size is the 12 inch blade.

Roast Beef Slicer: Long (14 inch) round nosed blade which will slice completely across the largest cooked roast beef.

Chef's Slicer: A shorter (12 inch) pointed blade knife for slicing other cooked meets where point may be needed around bones.

Butcher Knife: A slightly curved, pointed, heavy bladed knife used in sectioning raw, carcass meats. May be used either with a slicing motion or to chop through small bones or cartilage.

Cimeter or Steak Knife: A distinctly curved, pointed blade knife used in making accurate cuts, as cutting steaks from a loin. Gives clean, professional cut.

Boning Knife: A short (6 inch) blade, very thin, pointed blade knife used in separating raw meat from bone with minimum waste, also to filet fish. May have stiff or flexible blade.

Fruit and Salad Knife: A short (6 inch) pointed blade knife for pantry use in preparing salad greens, coring lettuce, paring and sectioning fruits. Various shapes for individual preference.

Paring Knife: A very short (2½ to 3½ inch) pointed blade knife. Used for paring fruit and vegetables. Point used for eyeing and removing blemishes.

Spatulas: Wide, flexible, blunt nosed blade knives for scraping utensils or spreading. Sizes range from 3½ inch blade butter spreader to 12 inches. Rated as semi-flexible (frosting spreaders), regular and highly flexible (bowl knives). Also termed palette knife.

Hot Cake or Meat Turner: Wide, off-set, chisel edge blade. Used to slip under and support hot cakes, fried eggs, hamburgers, etc., while turning on griddle, broiler or oven sheet.

Offset Spatula: Same uses as hot cake or meat turner.

Pie and Cake Knives: Wide bladed, offset knives with blades shaped as pie or cake wedges. Used to slip under individual pieces after cutting to remove from pan or stand without breaking.

Forks: Insulated handle cook's fork used for holding meats while slicing, turning and handling roasts and serving. Many sizes and types.

Steel: For maintaining edge of knives. Magnetically treated. Removes burrs to keep knives sharp.

Cleavers: An extra wide, heavy blade, square-nosed knife. Used to chop through medium bones and heavy cartilage, such as the backbone structure of chops.

Meat Saws: Bow mounted, thin, fine toothed blade saws for sawing through heavy bone structure, such as shank, thigh and shoulder bones in carcass meat.

Oyster Knife: Short with thin, tapering end for opening oysters.

Clam Knife: Flat blade with sharp edge for opening clams.

Pots, Pans and Equipment

Stock Pots: Large, round, high walled pots with loop handles for lifting on and off the stove. May be equipped with a draw-off faucet or strainer. Well fitting covers and inside racks to hold certain foods off the bottom should be available. Used for boiling and simmering where a large amount of water in relation to solids is used, as in making stocks, soups and boiling certain vegetables. Sizes graduated from about 2½ gallon to 40 gallon capacity.

Sauce Pots: Large, round, medium deep pots with loop handles for lifting on and off the stove. Used for stove top cooking where the ratio of solid to liquid is higher and stirring or whipping is necessary. Sizes graduated from about 8½ to 60 quarts.

Braisers: Large, round, shallow walled pots with loop handles for lifting on and off the stove. Very heavy to resist warping under high heat when used dry, as for searing meat. Used for searing, braising and stewing. Sizes graduated from 12 quart to 28 quart.

Sauce Pans: Smaller, shallower, lighter versions of sauce pot. Have a single, long handle for lifting. Same uses as sauce pot but for smaller quantity of food. Sizes range from 3 to 6 inches deep and from 1½ quart to 11½ quart capacity. Should have well fitting covers available.

Saute Pans: Large, round, shallow, straight walled pans with long handle for lifting. (Largest sizes also have one loop handle). Used for sauteing or cooking food in shallow fat. Heavy construction to withstand warping at high temperatures. Sizes range from 2½ to 4½ inches deep and from about 10 to 20 inches inside diameter.

Sautoir: Smaller, round, shallow pans with sloping sides for the quick frying of food in a minimum of fat. One long handle for lifting. Sizes range from inside bottom diameter of about 5 inches to 11 inches.

Skillet: Iron, heavy for pan broiling or frying. Holds heat well. May be used for varying temperatures. Many sizes.

Frying Pan: For light work (fried potatoes, omelets). All sizes.

Double Boilers: Consists of a lower section very similar to a stock

pot in which water is boiled and an upper section for food which must be cooked at temperatures below that of boiling water. The upper section is suspended in the boiling water by means of shoulders which rest in the rim of the lower section preventing contact between the bottoms of the upper and lower containers. Sizes range from upper section capacities of 4 to 40 quarts. Covers are provided for upper sections.

Roasting Pans: Large, rectangular, medium high walled pans, with or without covers. Several sizes to fit standard large quantity ranges and separate roasting ovens. Check your oven size before ordering.

Bake Pans: Large, rectangular, shallow pans, without covers. Used for baking. Sizes similar to roast pans.

Sheet Pans: Rectangular, very shallow (1") pans in varying sizes. Used for baking sweet goods, oven frying, and baking such products as cookies and melba toast.

Counter or Service Pans: Shallow pans with wide rims designed to fit standard steam table openings, usually about 12 x 20 inches. Used: 1) for baking or steaming some foods in the same pan in which served, or 2) as a transfer pan from cooking utensils to hot storage. May be obtained perforated for steaming some foods. Also available 1/2, 1/3, 1/4 and 1/8 sizes for insertion in one opening through use of adapters. Several depths, though standard is about 2½ inches. Sometimes called hotel pans.

Strainers: Perforated metal bowl with long handle and hook for hanging across pot. Used for draining such foods as spaghetti, rice, spinach and other leafy vegetables. Several sizes available depending upon size of pots used.

Collanders: Perforated metal bowls with foot and loop handles. Used for draining salad greens, fruits and raw garnish or salad vegetables after washing. Several sizes.

China Cap Strainer and Roller: A pointed, extra strong perforated metal strainer. Has long handle and hook for hanging on side of pot. Used to strain sauces and semi-solids which can be forced through perforations with roller. One of the most used kitchen utensils.

Sieve: Round, metal frames with mesh bottoms. May be obtained in several diameters and with several mesh sizes. Used to sift flour and other dry ingredients.

Skimmer: To skim grease or food particles from soups and sauces. Also used for draining foods.

Scoop: Metal, usually aluminum, for specific capacity (1 lb. 2 lb.) for scooping flour, rice, etc.

Whips: Loops of wire with the ends formed into the handle. Much more efficient in stirring or whipping quantities of food than spoons.

Spoons: All sizes. Used in same manner as in home kitchen. Slotted or perforated spoons used to drain liquid in serving.

Food Tongs: For handling food without touching with hands. Spring type metal formed in elongated U-shape with sawtooth like gripping fingers on each end.

Pie and Cake Markers: Circular metal frames mounted with wire guide bars for accurate marking, to place over pie or cake. Available in various diameters and various portion sizes. A must for uniformity and portion

control.

Dough Cutters: Wide, rectangular blade with top mounted handle. Used for cutting or dividing rolled out or batched doughs, lifting dough from board and scraping dough board.

Puree Sieve or Food Mill: Designed for one purpose only, to puree cooked foods such as fruits, potatoes and other vegetables.

Wooden Paddles: Various lengths. To stir foods in stock pots and steam kettles.

Measuring Devices

Urn Cups: Round lipped, cool handled measuring containers for the accurate measurement of boiling water, so important in making good coffee. Usually one gallon capacity with graduations showing quarts.

Measurers: Round lipped, side handled measuring containers accurately graduated usually in quarts. For the accurate measurement of liquids and some dry ingredients. Available in gallon, half-gallon, quart and pint sizes.

Measuring Cups: Round handled, accurately calibrated cups. Holds one standard cup (1/2 pint) when level full. Graduated to quarters.

Measuring Spoons: Accurately calibrated spoons, usually 5 to a set, linked together: tablespoon, teaspoon, 1/2 teaspoon, 1/4 teaspoon and 1/8 teaspoon. Parallel edges for accurate leveling.

Ladles: Metal bowls or cups of known capacity, attached to long handles with hooks at opposite end to prevent dippers from slipping into

containers. Used to measure liquids for service and portion control. Used also to stir, mix and dip.

Scoops: (Ice cream dippers.) Bowl of known capacity on rigid handle. Has thumb operated rotating vane to release semi-solid contents. Used both to measure and shape contents in serving and portion control.

Numbers and approximate capacities for dipper and scoop sizes commonly used in portion control are as follows:

Number	Measure	Approximate Measure
30	2 tbsp.	1 - 1 1/2 oz.
24	2 2/3 tbsp.	1½ - 1 3/4 oz.
20	3 tbsp.	1 3/4 - 2 oz.
16	4 tbsp.	2 - 2 1/4 oz.
12	5 tbsp.	2 1/2 - 3 oz.
10	6 tbsp.	4 - 5 oz.

Note: Larger dipper for liquid transfer, and when calibrated for measurement, are also available.

Brushes and Scrapers

Vegetable Brushes: Used to scrub root vegetables in preparation for cooking or salad preparation.

Pot and Pan Brushes: Handled brushes for removing food residues from and for scraping pots and pans. Stiff bristles, usually of palmetto fiber, sometimes called gong brushes.

Pot Hook: Metal hook for lifting pots and pans from boiling, sterilizing rinse water.

Coffee Urn and Gauge Glass Brushes: A must for keeping coffee urns clean and sanitary.

Tube Brushes: For cleaning wash and rinse tubes of dishwashing machine.

Original brush usually furnished with machine.

Block Scraper: Bristles of spring steel with chisel points, set in wood blocks. Used to scrape wooden butcher block surface after cutting meat. Never use water to scrub a block. Scrape well, remove scrapings and cover with salt.

Recommended Methods for Cleaning Equipment are as follows:

Range:

1. Remove all burnt sediment and wipe grease from top of range after each using.
2. Scrape grease from cracks and openings.
3. When cool, wash top of range with hot water containing a mild soap; fine abrasive powder; water containing washing soda. Dry well.
4. Run oiled cloth over top of range.
5. Clean oven by removing grates, scraping off food deposits, washing and drying.
6. Keep burners clean. If removable, soak, boil, scrub with stiff brush, rinse and dry. A good cleaning compound, used out of doors, is kerosene or solvent.
7. Before replacing burners, rub with oiled cloth.

Bake Oven:

1. When cool clean outside with light oil or damp cloth.
2. Clean steel shelves with an abrasive and a dry cloth mop.
3. Wipe heat control with camp cloth. Do not loosen dials.
4. Clean thermometers with a soft brush and fine abrasive powder.

Coffee Urn:

1. Drain after each meal.
2. Rinse thoroughly with clear, hot water. If discolored inside, use

fine abrasive powder or baking soda.

3. Wash bag, if used, in cold water after each use.
4. Clean gauges and faucets daily.
5. Wipe outside surfaces.
6. Clean urn bottom frequently.

Deep Fat Fryer:

1. Drain off fat and strain off sediment.
2. Fill with water and detergent and boil. A commercial deep fryer cleaner may be used in place of detergent. Drain.
3. Fill with water and one cup of vinegar and boil. Drain.
4. Rinse and dry.
5. Clean outside with grease solvent or mild soap. Rinse and dry.

Mixer:

1. Use rubber scraper if necessary and wash bowl and beaters with warm water and mild soap immediately after using.
2. After mashed potatoes, egg, or flour batters or mixtures, rinse with cold water before washing with warm water.
3. Dry beaters or whips and bowls thoroughly and hang up.
4. Wipe machine, including shaft and cloth.

Grinder and other attachments:

1. Remove disc and nut.
2. Remove grinding and cutting part.
3. Wash with warm water and mild soap or other detergent. Rinse. Dry thoroughly.

Slicer:

1. Clean immediately after each use, especially after slicing vegetables and fruit.
2. Remove all parts to clean.

3. Clean knife with damp cloth. Dry. Cover with tasteless, colorless oil.

4. Wash carriage slides thoroughly with hot water and mild soap.

Steamer:

1. Remove racks or shelves and clean drains.

2. Wash inside of cooker daily with water and a fine abrasive powder.

3. Wash outside regularly.

4. Blow out mud leg several times daily during operation.

5. Clean strainer as required.

Toaster:

1. Wipe off all crumbs around toaster after each use. Use a soft brush.

2. Clean crumb tray after each use.

3. Brush operating parts.

4. Wipe outside with damp cloth.

Waffle Iron:

1. Wipe baking surfaces frequently during use.

2. Brush out grids with brush recommended by manufacturer.

3. Place cloth dampened with ammonia between grids overnight.

4. Brush grids, re-season by brushing waffle iron with oil, closing and heating for five (5) minutes.

INTRODUCTION TO FOOD PREPARATION

Food preparation involves the cleaning, cutting, chopping, grinding, mashing, molding, shaping and other procedures which must take place to prepare the food for the cooking process.

Proper preparation is a major concern to the operator not only from a culinary and dietetic standpoint, but also because of the operating cost involved. Food wast must be carefully controlled.

There are several labor saving machines. Those commonly used for food preparation are: potato peelers, grinders, slicers, dicers, graters, mixers, cubers and tenderizers. Bakers often use dividers, rollers and crimping machines. Food preparation machines are very efficient when employees are properly trained on how to use them, but sometimes hazardous to the inexperienced employees. Machines should be conveniently located to the food preparation areas.

Institutional and industrial food services generally do not prepare the fancy dishes which require a lot of individual attention for each serving. Since rapid service is a necessity, simple dishes of wide appeal which can be prepared in mass production are usually featured. It is essential that these dishes be properly prepared to insure both flavor and eye appeal.

Good home cooked meals are usually given special attention, prepared in small quantities, and served immediately after being prepared. It is very difficult to achieve this home cooked quality in the food service operations since institutional cooking must be prepared in large quantities. Because of the effects of various ingredients upon each other in large batches, it is not generally possible to merely multiply or divide a recipe

and obtain the same results as would be obtained from the original formula. Some recipes can be converted satisfactorily, however one must take into consideration the effects of the ingredients upon each other, and the additional time required for preparation and cooking. Very fine restaurants usually prefer cooking vegetables in several small batches. Individual attention wherever possible will help to build a reputation for fine food. Do not allow foods to be prepared several hours in advance unless absolutely necessary. For health reasons, flavor and eye appeal, keep preparation and serving time to a minimum.

Actual cooking of food is accomplished in three ways:

Conduction: A vessel placed over a burner conducts the heat to the food within.

Convection: If the vessel contains liquid the heated liquid rises upward and convects the heat throughout the vessel.

Radiation: The heat that is sent out or radiated by light or heat waves in a straight line through the air, as in a broiler.

There are various methods to cook food. The principal methods are:

Baking: Food cooked by dry heat in an oven. This method is used on breads, pastries, casserole dishes, etc.

Boiling: To cook in a liquid at a temperature at which bubbles constantly rise to the surface. Vegetables, meats, cereals and eggs may be cooked with this method. Vegetables should be cooked in very little water usually to insure a more nutritious finished product.

Braising: Meat or vegetables are browned in a small amount of hot fat, then

a small amount of water is added, pan is covered, and the food simmers slowly until done.

Broiling: Food is subjected to direct heat, usually on a grill below or between fires or heated surfaces. Meats and some fruits and vegetables may be broiled. Bread may be toasted using this method.

Frying: Food is cooked in shallow pans with small amount of fat to prevent sticking. Sauteing the food is a term often used for foods cooked with this method.

Deep fat frying: Requires the food to be immersed in hot fat at temperature from 300 to 400° F. Potatoes, sea food, poultry, meat, onion rings, fritters and doughnuts are some of the foods which may be deep fat fried.

Roasting: Essentially the same as baking since the food is cooked by dry heat in the oven. Roasting usually applies to meat which is basted occasionally as it cooks by brushing the meat with the juices or other mixtures.

Steaming: Food is placed in inclosed vessel known as a steamer in which low pressure steam is present. Many kinds of foods may be prepared in a steam cooker, however excessive steaming results in a poor quality of food and may cause considerable shrinkage to meats.

Stewing: Food boiled slowly in a small quantity of liquid, usually in a covered vessel. Meats, soups, vegetables, chowders and stews can be prepared using this method.

Barbecue: To roast slowly on spit or rack over coals or under a gas broiler or electric unit, usually basting with a highly seasoned sauce.

Fricassee: To braise individual serving pieces of meat, poultry or game in

small quantity of broth or sauce.

Grill: To cook in lightly greased heavy pan or on top of range. Fat is poured or drained off as it accumulates to prevent food frying in large amounts of grease.

Microwave cooking: Food is subjected to microwave energy which vibrates about two and one-half million times per second creating heat inside the food, cooking it very rapidly. Very effective on frozen foods.

Six Basic Rules for Successful Food Preparation

1. Purchase quality meats, vegetable and staples. Both operator and chef should have a basic knowledge of the different qualities and cuts of meat. The freshness of the fruits and vegetables delivered. The seasons for fruits and vegetables when they are at their peak in flavor and availability.
2. Use proper storage to preserve the freshness. Don't expose fresh vegetables to room temperature longer than necessary for preparation. Most fresh fruits keep better under refrigeration. Keep all fresh fish and meats refrigerated.
3. Prepare the food properly, keeping preparation time to a minimum. Always use formulas. Avoid guess work to insure a consistently good product.
4. Taste the food when preparation is completed to be sure it meets with your high standards of palatability. Also observe the appearance. Does it look as appetizing and delicious as you desire?
5. Serve the food as quickly as possible after preparation is completed by employees who are gracious and courteous to the public.
6. Use proper storage of leftovers and utilize them quickly to avoid

loss of flavor, texture and spoilage. Most foods do not improve with age; exceptions are foods which require marinating.

Avoiding Waste in Food Preparation

1. Use proper cleaning procedures for fruits and vegetables. Avoid prolonged contact with water on foods which are water soluble. Most fruits and vegetables should be whole when submerged in water. Leafy vegetables which must be washed carefully to remove dirt are an exception. Water used on vegetables which have been sliced or diced washes away valuable nutrients. Vegetables usually require very little water and a short cooking time. Tight fitting lids should be used to prevent loss of steam and vitamins. Bruised fruits and vegetables must be used quickly since deterioration is very rapid.
2. Avoid prolonged cooking and excessive temperatures to reduce shrinkage and breakdown in texture.
3. Bakery items properly browned are more attractive and have a better flavor; however, the product is damaged by too little or too much baking. Insufficient cooking results in a doughy, soggy texture, while overbaking will result in a hard, cardboard effect.
4. Always keep a stock pot on the range to extract the water soluble components of beef or poultry meat and bones, flavorful vegetables such as leeks, onions, carrots and celery. (Never put lamb or mutton meat or bones in the stock pot.) Prolonged simmering in water achieves the desired extraction. Strain out the solids, leaving a clear liquid. This flavorful extraction can be served in varied ways. As it comes from the stock pot it can be served as broth or bouillon. It is basic ingredient for elegant soups and

gravies. Stock from beef is called brown stock; when made from poultry, it is white stock. A ten gallon stock pot is the average institutional size used. The larger beef and veal bones require a lot of room. Avoid using vegetables or meat which will give an unsavory flavor to the stock. (Turnips and rutabagas will give a bitter taste.) Always start the stock with cold water since hot water seals the pores of the meat, holding back the flavor. A small amount of salt should be added. For every five pounds of meat and bones, add approximately three sliced or quartered carrots, two onions stuck with a whole clove, two bay leaves, parsley sprigs, three chopped celery stalks, 1/8 teaspoon thyme, ten pepper corns and any other vegetables you may desire, use water in accordance to the strength desired. As the stock boils, a scum will form on top, skim at intervals for a clear stock. Stir gently occasionally, simmer for several hours. When stock is finished, strain and keep in refrigerator with the hardened fat on top until you are ready to use it then remove excessive fat. Caution, do not allow the stock pot to be a "catch all." Use only fresh, flavorful ingredients to make a superb stock.

Cooking Terms Commonly Used

Breading: Dipping food into an egg-milk mixture then roll in fine bread or cracker crumbs.

Caramelize: To heat sugar or foods containing sugar until a brown color and characteristic flavor develops.

Chopping: Cutting food into fairly fine pieces with a french knife or other sharp tool.

Cream: To work a food until soft and creamy, using a wooden paddle, spoon, or other implement.

Dicing: Cutting food into cubes.

Fold: To combine two mixtures such as beaten egg whites and sugar, by cutting down gently through mixture with a spatula or other implement and folding over and over until mixture is blended.

Knead: To manipulate dough to make it elastic and smooth.

Marinate: To let foods stand in a mixture to add flavor or make more tender.

Parboil: To boil until partly done.

Poach: To cook gently in liquid.

Reconstitute: To restore concentrated foods to their original state.

Rehydrate: To restore liquids to dehydrated foods.

Scald: To heat liquid to just below the boiling point.

FOOD PREPARATION

For best results four points should be observed closely.

1. Use ingredients of good quality.
2. Minimum lapse of time between preparation and service.
3. Proper cooking methods.
4. Proper storage after preparation.

You must have good quality ingredients in order to have good quality products. You can't cook quality into a fair or poor ingredient.

Foods usually should be served immediately after preparation because most foods do not improve with age, exceptions are foods that marinate, but this is part of the preparation.

Necessary Basic Knowledge

The requisite of good cooking is first an accurate knowledge of the items to be prepared. Your chef or cook must know basic characteristics of the food with which he is working. Knowing the cut or quality of meat will determine method of cooking, the time and temperature.

When cooking fresh vegetables it is important the age of the vegetable and vitamins contained be known. These factors will determine the method of cooking. The season of the year is also a determining factor in vegetable preparation.

Potatoes best in fall, although they will keep through the winter, by spring the starch of the potatoes is closer to a sugar.

Fish cookery: Fish can be prepared by broiling, pan-frying, deep fat frying, baking, steaming, or poaching, sauces can also be used. The most

popular fish is broiled or deep fat fried. When deep fat frying, be sure to purchase fat which will not smoke at low temperatures. A tasteless, odorless vegetable shortening is good for this purpose. Uniform products can be attained more easily by use of a deep fat thermometer, or thermostatically controlled deep fat fryers.

Meat cookery: We plan menus around the meat course. The meat is of appetite appeal and interest. The aroma and appearance enhance atmosphere of an establishment. If the meat dish is different the entire menu seems to have variety, even though the accompanying dishes are much the same as the day before.

What are the fundamentals of meat cookery? The type of cut determines the method of preparation. There are basically two principles involved in cooking meats: (1) dry heat and (2) moist heat. Dry heat methods, roasting, broiling, or pan broiling, are used for the tender cuts of meat because they contain little connective tissue. The moist heat methods, braising and stewing , are used for the cuts that contain much connective tissue.

Roasting: To roast is to cook by dry heat before a fire or oven, hot stones or metal. Originally on a spit over an open fire being turned frequently. Now means cooking in dry heat in the oven. Only tender cuts of meat are desirable for roasting. The following are suitable:

Beef	Lamb or Mutton
Ribs	Leg
Sirloin	Shoulder roll
Short loin	Crown ribs
	Loin
Veal	**Pork**
Loin	Loin - Tenderloin
Leg	Boston Butt - Crown ribs
Shoulder	Shoulder - Fresh or cured ham

Less tender cuts can be roasted more satisfactorily by covering the pan to

retain moisture.

Broiling and Pan Broiling, dry heat methods of meat cookery. Broiling is cooking by direct heat or to grill. May be done over hot coals, under gas flame or an electric unit. In pan broiling the heat is transmitted to the meat from the hot metal of the frying pan rather than directly as in broiling.

The objective in broiling and pan broiling are the same; to produce steaks or chops with an attractively browned exterior, a plump full appearance and juicy interior of the desired degree of doneness. Cuts of meat suitable for broiling are:

Beef	Pork
Tenderloin	Cured ham
Porterhouse steak	Cured bacon
Sirloin steak	
Club steak	
Ground beef patties	
Lamb or Mutton	**Veal**
Loin chops	Has too little fat
Rib chops	

There is a fine line between frying and pan-broiling. But frying means to fry in fat. Usually other methods are used, but some cooks do fry such cuts as veal steak and chops or liver. Some tenderness is sacrificed to flavor in this method. Braising, a moist heat method, is used in the preparation of those cuts containing considerable connective tissues. To braise means to brown meat in a small amount of added fat, then to cover and cook slowly in juices from the meat, or in a small amount of added liquid.

Stewing or cooking in liquid is a moist heat method used in preparation of less tender cuts, but remember tender cuts can also be cooked in water. Meat cuts especially suitable for moist heat cooking are:

Beef	Veal
Rump	All cuts
Round	
Shank	Lamb or Mutton
Flank	
Tail	Shoulder
Chuck	Breast
Neck	Neck
Brisket	
	Pork
	All cuts

When cooking meat we must consider meat shrinkage. Shrinkage affects appearance, palatability, nutritive value and the number of servings produces higher cost per serving portion.

Two factors influence this cooking loss: (1) the temperature of the oven and (2) the degree of doneness. Both can be controlled, therefore, reducing shrinkage.

How do we control shrinkage?

1. Using low cooking temperaturs.
2. Not overcooking, cooking only to desired doneness.
3. Using meat thermometer to eliminate guesswork.

When shrinkage is kept to a minimum then nutritional value and palatability is greater. Minimum shrinkage produces maximum yields. Slicing is poor when meat is cooked at high temperatures. Shrinkage reduced 10 - 20% in 325° or 350° instead of 400° F or over. Cooking time of meats is affected by (1) degree of doneness, (2) size or style of the cut and (3) the amount of fat covering the meat.

Vegetable cookery: Boiling does the most damage to vegetables, yet this is the most frequently used in the cooking of vegetables. Only a very small amount of salted water should be used. Water should be boiling when the vegetables are put into the pan for cooking. Vegetables should be cooked until just tender.

Baking is the best method for preservation of vitamins and minerals. Dry baking in their skins is a simple method (for potatoes, squash, turnips, carrots, onions). Baking also includes roasting of whole vegetables with meat, gravy or fat.

People are becoming more aware of a well balanced diet and the growing popularity of salads and vegetables are coming into greater importance in food preparation. Cooked vegetables add variety and combinations to a menu. Raw vegetables lend themselves well to salad making in grated, julienne and curled form, producing large portion yields.

Soups: Cooking in water is the method used for making soups or meat stock. By extracting as much flavor as possible from bone and meat we can obtain a rich broth. Brown stock is made from beef or other meat which has been browned. To make clear soup, stock of unbrowned meat must be strained through several thicknesses of cheesecloth.

Baking: Quality products depend on quality ingredients. A pie depends on two factors, a good filling and a good pie crust.

Know food terms in Ken Book plus:

Breading: Dipping a food into an egg-milk mixture and then into fine dry crumbs.

Chopping: Cutting food into fairly fine pieces with a knife or other sharp tool.

Dicing: Cutting into cubes.

Water in Food Preparation

Used freely, many foods are (1) washed in water; (2) put into water to cook; (3) water is added to moisten food. Water is called the universal solvent because so many substances dissolve in it, including colors, flavors, acide, sugar, some proteins, minerals and certain vitamins (B-complex and

ascorbic acid). Wherever a cut or bruise occurs on the surface of the food, water can dissolve these substances.

No water soluble substances lost with fruits and vegetables with protective skins such as oranges, pears, apples, potatoes and similar foods. When the skins are pared away, some of the cells are ruptured and cellular materials may be dissolved if the food is washed or covered with water.

Increased cut surface means increased ruptured cells and permits losses consistent with the number of cells disrupted. Or, the greater the surface area exposed to water, the greater the solubility losses will be. If the water is used, we don't lose these nutrients, rather we merely displace them. It is not always desirable or practical to keep food whole for cooking or serving, but we can control the surface area to a large extent.

Spheres have the least surface area per given weight, but it is not possible to cut food into balls without waste. But we can cut into cubes rather than slices or cutting into irregular shapes, therefore revealing less surface area of the same volume. Long thin slices, like leaves, have a large surface area for their weight.

The best procedure to follow when washing food would be to leave the food whole whenever possible in order to retain water soluble substances. Procedures for cooking should be chosen according to whether the water will be used or discarded. If it will be used solubility losses are not in themselves important.

When the water is not to be used, then it is recommended that small portion of water is used and if possible evaporated during the cooking period.

When cooking food the amount of substances that go into solution increases in direct proportion to increases in time and temperature. This

means that it is desirable to maintain time and temperature conditions that will allow for a good product but at the same time result in minimum solution losses. The three stages of water are: Liquid (water), solid (ice) and gas (steam). These three forms are of considerable importance in food preparation.

Steam is formed rapidly by the boiling temperature of water. The temperature will remain constant whether it is boiling rapidly or slowly. Boiling temperature varies with altitude. Rapid boiling increases the rate of evaporation (loss of water through steam). Rapid evaporation is desirable in jelly making, but in other instances the food may either boil fry or the excessive agitation may cause undue changes to the shape of the food.

When water is changed to steam, it can expand 1,600 times in volume. Much of the expansion of baked products results from some of the water in the flour mixture changing to steam. There must be gas pockets present to entrap the steam or one large hole will result, as in cream puffs and popovers. Tight fitting lids on pans prevents evaporation to a large extent. When a tight fitting lid or cover is removed from a pan of boiling liquid you will find that some of the steam has condensed and is returning as liquid to the cooking vessel. When it is desirable to have the liquid evaporated rapidly, it is necessary to boil it uncovered.

Tight fitting lids that can be clamped down to prevent any loss of steam are called pressure saucepans or pressure canners. When pressure utensils are used results will be increased temperature and is sometimes used to decrease cooking time of certain foods.

Heat in Food Preparation

Heat is usually thought of in conjunction with the actual cooking process, but the absence or removal of heat is as important as the application or addition of heat.

Refrigerator or room temperature are common terminology in food preparation. Refrigerator temperature is approximately 45° F, and 72 - 75° F is room temperature. Changing the temperature of food even at these low temperatures can affect both the nutritional value and palatability.

Ingredients for most prepared products are generally used at room temperature because they blend readily. When mixing at higher than room temperature, used occasionally, may be impractical, or ingredients may become too intimately mixed for desired results.

The practice of warming or cooling of food materials is useful in attaining certain results. If a more fluid product is desired, warming increases the fluidity. Egg white for foaming are preferred at room temperature rather than refrigerator temperature because they foam more rapidly and attain a larger volume than when cold. Cream for whipping cream is kept cold to keep the fat firm. Eggs for frying or poaching are purposely kept cold to prevent excess spreading.

The growth of micro-organisms in foods can be controlled by controlling the temperature. Foods are frozen or refrigerated if bacteria, yeast, or mold growth is to be inhibited, but they are warmed if this growth is to be encouraged (yeast in bread).

Methods of Heat Transfer

There are six methods to transfer heat in food preparation; air, liquids, metals, glass, paper and plastics. Air, liquid, metals, glass and paper are used for cooking and, in addition to these, plastic containers are used for cooling. These methods vary in the rate of heat transmission and give different appearances or flavors in foods.

Air is the slowest method of transferring heat. Example: A muffin baked at 400° F will require the same cooking time as dough steamed (dump-

lings) at 212° F. The muffin, which requires 20 minutes in an oven at 400° F will require only 3 minutes in hot fat at 400° F. A hard cooked egg will chill thoroughly in 5 minutes in ice water at 32° F, but will still be warm to the touch after 20 minutes at 32° F in the freezing cabinet of the refrigerator.

Methods of heating in which air surrounds the food and evaporation is permitted, are termed dry methods of cooking. These include:

1. Roasting or baking in ventilated oven in which heated air is circulated around the food.
2. Broiling, barbecueing, and similar methods of cooking in which one side of the food is placed close to the source of heat. On barbecue spits and rotisseries the food may be turned constantly so that all sides cook uniformly.
3. Immersing in hot fat. Moisture from the food escapes into the atmosphere through the fat.

When the heat is transmitted to the food by water, the method of cooking is referred to as moist heat. Moist methods of heating are those in which the food is immersed in water or enveloped in steam. If meats or other foods are wrapped in foil or placed in a covered pan and heated in an oven there will be a sufficient amount of liquid from the food itself to make this a method of moist heat cooking.

Methods of heat transfer may combine or use two media. Baked products are in contact with metal or glass which transmits the heat from the air to the food. If the transfer of heat through the pan is too rapid, the food may burn on the bottom before the top is browned sufficiently. Paper liners may be used to decrease the rate of browning because paper transmits heat slowly. In a similar manner paper covers may be used to prevent overbrowning of the tops. Metal skewers are sometimes used to conduct heat more rapidly

to the center of roasts and potatoes than is possible by only baking in heated air.

It must be remembered that the food itself, in the conventional methods of heating and cooling, transmits heat. The heat must penetrate to the center of the food if the entire piece is to be cooked and heat must be transmitted from the center to the surface if food is to be cooled. Therefore, the shorter the distance to the center, the more quickly the food will cook or cool. Large products are often baked a longer time at a lower temperature than similar substances made into smaller pieces. The lower temperature is necessary if the surface of the large piece is not to become overbrown before the center is cooked. Large pieces also cool more slowly than smaller pieces.

The amount of surface area per given weight of food influences a great many reactions, and heat transfer is no exception. In heat penetration and cooking, the greater the surface area exposed to the heating medium the shorter will be the time required for cooking. Cake batter cooks more quickly as cup cakes than as loaf cake; rolls bake more quickly than loaves of bread.

There are several generalizations that can be deducted concerning the effect of heat on food, these are:

1. Water evaporates from any food unless it is covered. This accounts for the fact that fresh vegetables wilt when exposed to air, baked products weigh less than their batters, surfaces of baked products brown, a heavy skin forms on uncovered sauces and puddings, meat shrinks in cooking.
2. Most proteins coagulate (become set) when sufficiently heated; custards gel, meats become firm, flour mixtures hold their shape.

The temperature of coagulation varies among different proteins, and interfering substances (sugar in custards and flour mixtures) may change the coagulation temperature.

3. The carbohydrate in the starch category all absorb water and swell (gelatinize) resulting in the thickening of products such as sauces and puddings. The temperature of maximum gelatinization varies among starches, and added ingredients such as sugar may change the gelatinization temperature.
4. The carbohydrate in the cellulose category soften on cooking unless some hardening agents are present such as the minerals in hard water, table salt, sugar, or acid.
5. Cooking may cause color changes in food. Green vegetables may show browning of the chlorophyll pigment.
6. The acid content of foods may decrease on cooking either in steam or cooking water. Generally food acids are given consideration only when one food is to be used with another, for example tomatoes with green beans or orange juice in cake.
7. Flavors change in cooking, some flavors are lost in the steam and others may decompose. Some of the changes such as the browning of meat are highly prized, others such as the bitterness that developes in cabbage cooked a long time, may be considered unpalatable.
8. Those vitamins sensitive to oxidation are changed more rapidly when food is cooked. When vegetable and fruit textures are softened in cooking, the water soluble minerals as well as vitamins can be readily dissolved into the cooking water.
9. Cooking destroys micro-organisms. This aspect in food preparation is often overlooked, but at times can be the most important reason

for cooking food. Organisms causing communicable diseases are relatively easy to destroy.

Acids and alkalies were mentioned earlier in food preparation. What are they:

Edible acids used in food preparation are usually limited to cream of tarter, vinegar, or those provided by foods themselves, notably lemon juice, sour milk and molasses. Acids are those constituents present, or added to foods, that give the tart sour quality. Sugar can offset the tartness but cannot decrease the acid content. An alkali cannot sweeten the food, but it decreases acidity by neutralizing the acid. Soda (sodium bicarbonate) is the edible alkali used in food preparation. Its chief use is in flour mixtures where it produces a leavening gas, carbon dioxide, in its reaction with acid.

Pure water is neutral in reaction because it is neither acidic or alkaline. Milk and meat contain so little acid they are almost neutral. Egg white is one of the few alkaline foods. Vegetables contain larger amounts of acid than meat or milk, and fruits are generally acidic. Tap water is usually alkaline in reaction.

Foods are complex chemical compounds containing varying proportions of both related and unrelated chemical substances. Air, water and heat are factors that must be considered in the preparation of foods in order to retain or attain desirable products from the aspects of nutrition and palatability. Inasmuch as the principles of physics, chemistry, bacteriology and other sciences must be applied in the preparation of food, food preparation is an exact science.

The psychological and sociological values of foods are often of as great importance as their physiological values. In preparing food to fulfill

sociological values, artistry in food procedures must be practices. Often times a scientific principle is employed to obtain an artistic effect. Food preparation, therefore, constitutes both a science and an art.

SALAD PREPARATION

Salads are usually used to compliment and highlight a meal. They are probably the best source of essential vitamins and minerals to the human body because they consist of a variety of meats, poultry, fresh or cooked fruits and vegetables, fish, dairy products and gelatins. They are usually served with a dressing. Salads offer an excellent opportunity for merchandising and display of artistic talent. There are four categories of salads.

1. Appetizers: Served before dinners, usually at cocktail parties or social hours.
2. Accompaniment: A side salad of moderate portion served with the entree.
3. Main course salads: Constitute a whole meal, an example would be a combination of vegetables, meats and cheese such as found in large chef's salads.
4. Dessert salads: Usually sweet, may be molded or frozen and consist of fruits, nuts, gelatins, dairy products, etc.

Basic Principles of a Good Salad

1. Since the quality of the finished product can be no better than the ingredients used, it is very important to purchase only quality products which will maintain their flavor and freshness when prepared and served properly.
2. The salads should be made to look as attractive as possible, using simple techniques which will not confuse the customer as to what kind of salad he is actually buying. Garnishes should bear some relationship to the salad they are served with. Example: Vegetable

and egg garnishes are good with vegetable, macaroni, meat and fish salads. Fruit and dairy garnishes with fruit and gelatin salads. Watercress and parsley can be used on most salads; however, watercress usually makes a better garnish for fruit salads than parsley does. Strips of beef, ham, cheese, and crisp bacon bits make very good garnishes for vegetable salads. Remember not to "over do it" with the garnishes. Some salads have enough color and need very little garnish at all.

3. Keep the salads neat; regard the inner rim of a plate as a picture frame for setting up and displaying a salad. Keep the ingredients within the inside rim of the plate. The customer must be able to pick the salad up from the cold table or display area and place it on his tray. He will be annoyed if he has to plow through layers of greens to find the rim of the plate in order to pick it up. However, avoid using plates or bowls which are too large for the salad since the salad should not look "lost". If the containers are too large, the result is loss of eye appeal and wasted space on the display table. Many operators use the system of putting all salads in the same price range in identical containers. Example: All 15¢ salads in sauce dishes, 35¢ salads on 8" salad plates or small salad bowls. This causes less confusion to the customer and cashiers since the container automatically determines the price of the salad.
4. Use proper combinations of foods. Use care and imagination in selection and preparation of ingredients. Strive for harmony of flavor, color and texture.
5. Keep the foods identifiable. Never let a tossed salad have the appearance of hash. Leave the individual ingredients in large

enough pieces to retain their identity both in appearance and taste. Salad greens and vegetables should be cut in bite size pieces. There are exceptions, such as cole slaw, grated carrot, chicken or tuna salads which require different preparation procedures from the tossed vegetable salads.

6. Serve the salad properly chilled and on cold plates. Keep a sufficient supply of plates and bowls chilled in the refrigerator, if possible. Avoid freezing temperatures during storage of prepared salads since this will result in damage to the fruits and vegetables, especially the salad greens.
7. Use only foods which have been prepared properly. Use fresh, well-cleaned, thoroughly drained fruits and vegetables. If any of the ingredients are to be cooked, avoid over cooking since this destroys color, vitamins and minerals resulting in the loss of nutrition and eye appeal.

Basic Parts of a Salad

1. Base: Usually some form of greens; lettuce and romaine are favorites; however, there are others which may be used, such as large spinach leaves, chicory or endive. The base (sometimes referred to as a liner) is placed on the plate first to keep the salad from looking bare. It may also add contrast and eye appeal to the salad.
2. Body: The ingredients which make up the salad itself. It is the choice of these ingredients which usually give the salad it's name.
3. Dressing: Compliments the salad and should have a relationship to the salad. The dressings may be served separately, placed on or mixed with the salad immediately prior to serving. This aids in maintaining the freshness of the salads and prevents a watery effect.
4. Garnish: The finishing touch designed to give contrast and eye

appeal but not so elaborate as to detract from the body. Remember to use garnishes which are related to the salad.

Preparation of Salad Greens

Greens are used extensively in all types of salads. Proper washing and storage are essential to preserve their texture and flavor. This is often a tiresome task but it must be done by conscientious employees carefully trained to avoid waste and loss of quality. The following procedure is recommended:

Wash thoroughly several times in large containers of cold water or under cold running water, separating the leaves to remove all grit and dirt. Removing the core on some greens enables more thorough washing. Avoid bruising and excessive handling of the greens to prevent fast deterioration. After careful washing, remove the greens from the water and drain thoroughly. They are now ready for storage in plastic bags or other covered containers to insure crispness. A damp cloth over the top of the greens will help to preserve their freshness. Greens such as lettuce will hold up longer and have less tendency to turn dark if they are soaked in water containing a preservative, then drained and stored in covered containers until needed. Veg-a-white or any comparable product may be used. When lettuce hearts are to be served, the core is never removed from the head of lettuce since it holds the leaves togehter.

The greens may be served in many ways. The large outside leaves, in good condition are saved for the salad bases. Inner leaves may be cut in bite-size pieces or shredded, depending upon how it is to be used.

Watercress should be washed, refrigerated and used as soon as possible since it can only be stored for a short period of time. It should be wrapped with a wet towel or in a plastic bag or covered container before it is refrigerated.

Parsley has better keeping qualities than watercress but loses it's bloom if not cared for properly. Wash, drain and store in tightly covered containers under refrigeration until used.

Handling Fruits and Vegetables

Most fresh fruits and vegetables, except bananas, require refrigeration. They should be handled carefully to avoid bruising. Some fresh fruits and vegetables discolor when cut and exposed to the air. Bananas, apples, pears, peaches, and avocados have this tendency and may be marinated or brushed with acidic liquids such as lemon, orange, grapefruit or pineapple juices or salted water to prevent them turning dark and improve their flavor as well.

Stainless steel knives are best for fresh fruit and vegetable preparation since they do not stain or discolor foods.

Preparation of the Salads

Whenever possible salads should be prepared, then sold as soon as possible. In larger operations many salads must be prepared ahead of time. The number and varieties of salads to prepare must be determined by habits of clientele, weather conditions and intuition. Always "push" the salads which can be prepared from fresh fruits and vegetables which are currently in season and enable more profitable sales. If mass production is used, assembly line techniques are most efficient. All ingredients are prepared at the same time. A specified number of plates are laid out in a work area convenient to the person or persons preparing the salads. The base is placed on all the plates first. The body of the salad is then placed on the bases. Strive to be artistic with the placement of each ingredient. The garnish is then added and the salad is refrigerated until placed on the cold table. The dressings for most salads are never put on until served to the customer. Many operators allow the customers to serve themselves a salad dressing of their choice when they purchase the salad.

Storage of Prepared Salad Ingredients

Stainless steel, plastic and crockery containers should be used for storage of prepared mixes such as egg, tuna or chicken salad, or any other salad which is stored for several hours. Potato and macaroni salads are also prepared several hours before serving. Never store salads in containers of enamel because it chips easily, resulting in dangerous materials in the food.

Salads As a Special Service to the Customers

Customers are pleased when you prepare special salads for the. If the customer is on a diet because of allergies, illness or weight problems, you have an opportunity to give a very special service. A relationship is born which endures long after the customer is able to return to an ordinary diet. Try to have an assortment of salads which will include salads for the weight watchers. They will appreciate your thoughtfulness.

Naming the Salad

Be specific when naming a salad. A tossed salad means a blend of vegetables tossed together, however a tossed green salad should contain only mixed greens, except for the garnish. A specific name helps the customer understand it clearly and know what to expect when he orders. This avoid confusion and resultant poor relationships.

Gelatin Salads

Gelatin salads are economical to make and offer a wide variety of color, flavor and shapes to the salad bar. When preparing the gelatin it is extremely important to follow the directions accurately. Too much gelatin results in a rubbery product while too little gelatin will result in a soft, runny mess.

Portion and Cost Control of Salads

Portions should always be controlled to insure uniformity of quantity to each salad. If an ingredient is substituted to add variety to the salad, it must have a comparable food cost to the item being replaced, otherwise the

salad would have to re-priced, causing confusion and a bad relationship with the customer. The Russ Gruber Cost Control book in this manual has many good examples of how this may be accomplished. It includes a large variety of tested recipes which have been good sellers and profitable items to him.

SPICES AND HERBS

Allspice - Dried berry of pimento (not pimiento) tree, grown in West Indies. Flavor resembles blend of cinnamon, nutmeg and cloves, hence the name. Used whole in pickling, stews, soups, preserved fruit, boiling fish, spicing meat and gravy. The ground is used to season pot roasts, baked goods, apple butter, conserves, catchup, mincemeat.

Basil, Sweet - Belongs to mint family; one of the best known of herbs. Grown in Europe and U.S. Famous in tomato dishes; bean, mock turtle and potato soups, good in potato, spaghetti, egg dishes, steaks, venison, wild duck.

Bay Leaf - Dried leaves of laurel. Grows in many parts of world. Leaves from shrubs of Eastern Mediterranean considered best. Famous in pickled beets, stews, gravies, relishes, spiced vinegar or marinade, in meats, as sauerbraten, etc.

Caraway Seed - Dried pungent seeds from herb of the carrot family. Grows in Holland, Russia, Poland. For rye bread, baked goods, kraut, cabbage, potatoes, roast pork, goose, cheese, cake, cookies.

Cayenne - Smallest, hottest member of red pepper family. Grown in Africa. Used sparingly to season meats, fish, sauces, egg dishes, mayonnaise.

Celery Salt - Made by grinding celery seed and fine salt together. In soups, cream sauces, salads, dressings; on roast poultry, meats.

Celery Seed - Pungent seed from plant similar to garden celery. Comes from India. Croquette mixtures, stews, slaw, potato salad, salad dressing, pickles, cheese, fish, meat spreads are some uses.

Chile Peppers - A fine satiny surfaced red pepper. Grown in Mexico and Southwest U.S. Used to make chili powders for chili con carne, tamales, pickles, cooking dried beans. Both green and ripe peppers pickled and used to make hot sauces.

Chile Powder - A blend of chili, red peppers, cumin seed, oregano, garlic powder, salt, etc. Most widely used in chili con carne. Also used in cocktail sauces, gravies, stews, appetizers.

Chives - Grows indoors or outdoors from clumps of small onion-like bulbs. Has mild onion-like flavor. Adds color and flavor to cottage and cream cheese, egg and garnishes.

Cinnamon - Bark of true cinnamon tree that grows in Ceylon. Milder in flavor and thinner than cassia bark. To flavor pickles, preserves, fruits, hot drinks and as "spoons" for after-dinner coffee. Ground in baked goods, puddings, cake, mincemeat.

Cloves - Nail-shaped dried flower bud of the clove tree. Rich and pungent in flavor. Whole in baked ham, pickling, and drinks. Ground in cakes, cookies, conserves, desserts.

Cumin or Comino - Native of Palestine, of carrot family. Esteemed by Jews. An Italian and Mexican favorite. Aromatic seeds with bitter warm flavor. In Curry Powder; cookies, egg and cheese dishes, sauerkraut, soup, meat, rice, pickles, sausage, chili con carne, hot tamales.

Curry Powder - Blend of spices from India. By varying proportions of 16 spices, different flavored curries are produced. Used to make curries of meat, fish, eggs, chicken; curry sauce and flavoring gravies.

Garlic - Potent flavored bulb of onion family. Flavor either very popular or unpopular. Used either fresh or dried to enrich flavor of salad dressing, meat, many cooked vegetables.

Ginger - Dried root of sub-tropical plant grown in China, Japan, India, British West Indies. Warm in flavor. Cracked root used in pickles, preserves, chutney. Ground root in cake, gingerbread, cookies, puddings, soups, pot roasts.

Marjoram - One of best known herbs; belongs to mint family. Grown mostly in Europe. Potent in flavor. Dried, good pounded into veal, used in meat, potato, spinach, cheese, egg and fish dishes; chicken or green vegetable salads. Season poultry stuffings, sausage, stews, soups. Use sparingly. Often used with other herbs.

Mint - A widely grown herb with a delightfully cool, pungent flavor. Obtainable in dried form. Popular in sauce or jelly with roast lamb. Used chopped as edible garnish on carrots, beets. Delicious in iced tea and fruit beverages.

Mono Sodium Glutamate (Not a spice) - Neutral salt of glutamic acid which is one of twenty odd amino acids -- the building blocks of all proteins. Is extracted from wheat protein and sugar beets. (Is not a spice.) Used to heighten flavor in meat, poultry, fish and vegetable dishes.

Nutmeg - Kernel of fruit of the Nutmeg tree. Grown in Dutch East Indies and British West Indies. One of the oldest known spices. Used as a traditional flavoring for baked custard and other desserts. Also used in cream soups, sauces, stews, vegetables such as spinach.

Oregano - Is a wild marjoram. Has a pleasing pungent fragrance. Is widely used in Mexican and Italian dishes; in meat stews, dried beans, lentils, pizza.

Paprika - A red pepper grown in Hungary or Spain. Rich fiery flavor. Method of grinding determines ultimate flavor. Spanish milder than Hungarian. Is used for color and mild flavor. In fish, shellfish, vegetable and egg dishes

and in salad dressing.

Parsley - A widely grown useful herb, rich in vitamin A. A good source of vitamins when eaten in salad-like portions. Can be chopped to season and garnish soups, stews, salads, potatoes, stuffings. Sprigs as salad ingredient and edible garnish.

Pepper, Black and White - Black pepper is dried small, immature berries of climbing vine grown in India and Dutch East Indies. White pepper is mature berries with hulls removed. Pepper is used whole in pickling, soups, gravies and meat. It is used ground in most meat, vegetable, fish and egg dishes.

Pimiento - Ripe fleshy fruit of a sweet pepper plant. Packed in small cans in its own viscous juice. It is used for spots of brilliant color, mild flavor in soups, stews, salads; as garnish for green vegetables like asparagus, green beans.

Poppy Seed - Tiny seeds of poppy plant -- about 900,000 seeds to the pound. Imported from Holland. Used whole as topping for breads and cookies; as filling for Kolachy; in cookies and cake. Garnish for noodles.

Poultry Seasoning - A mixture of several spices as sage, pepper, marjoram, savory, thyme, onion powder and celery salt. Used in poultry, pork, veal and fish stuffings; to season meat loaf, dumplings, biscuit crusts for meat and poultry pies.

Rosemary - Belongs to the mint family. Grown in Southern Europe and Western Asia. Dry, needle-like leaves. Used for flavoring. Is delicious in tomato and egg dishes, soups, fish, roast lamb, pork, beek and duck. Improves stuffings, vegetable and cheese dishes when combined with sage. In biscuit muffin mixtures.

Sage - The most familiar of herbs. Dried leaf of shrub belonging to the mint family. Grown in U.S., Yugoslavia and Greece. Is powerful in flavor. Used

to season stuffings, sausage, veal and pork dishes, beans, tomatoes and fresh cheese.

Seasoning Salt - Includes celery, garlic, onion salt, etc. Made by grinding dried, fresh seeds or dried, fresh vegetable flakes with pure salt. Is used as an alternate for part or all of the salt. Added to meat, poultry and egg dishes and in stuffings and sauces.

Sesame or Benne Seed - From pods within blossoms of a plant grown in India, China and Turkey. Hulled seeds are pearly white with toasted almond flavor. Baked on rolls, breads and buns to give rich, nutty flavor to crusts. Is also used in Jewish candy, Halvah. Sesame oil is used in commercial flour mixtures.

Soy Sauce - Made from soy beans by a long curing process and is used in many Chinese and Japanese dishes.

Tabasco - Made by macerating fresh picked, small hot Mexican peppers, salting and curing 3 years, blending with vinegar, straining, bottling. Produced in Avery Islands. Is used to season egg dishes, gravies, marinades, salad dressings, sauces, sea foods, poultry and soups.

Tarragon - Related to wormwood family. Has aromatic leaves of a slightly bitter flavor. When used fresh is prized for flavoring vinegar and to shred with lettuce for salad. Either fresh or dried adds excitement to fish, egg and chicken dishes, lobster thermidor, fish sauces, beets, spinach, aspics.

Thyme - Grown principally in Southern France. The No. 2 of American favorite herbs. This spice is essential in the famous New Orleans Cuisine. Present in the French Bouquet Garni. Excellent seasoning for Manhattan Clam Chowder, lamb, meat soups, stews. Is good on vegetables such as carrots, peas, egg plant, escalloped onions, also in stuffings.

Tumeric - The root of a bright yellow plant belonging to the ginger family. Is often combined with mustard for pickling and is used in meat and egg dishes.

FOOD ADJUNCTS - CONDIMENTS

Food Adjuncts - A seasoning or flavoring which is added to foods or beverages to make them more platable but which is secondary and not always essential.

Condiments - An accompaniment to food, such as catsup, relish, mustard, pickles, salad dressings, etc.

A chef is able to create dishes which are varied, distinctively different and extra special through proper usage of spices. Spices are not limited to formulas which are completely prepared on the premises since they may be added to convenience foods also. It is an easy inexpensive way of giving individuality to standardized food items. European chefs have long been noted for their ability to use wines and spices in their food creations.

Herbs and spices should enchance the natural flavor of the food - not obscure them. Spices should add an overall savoriness without dominating, unless this is desired, such as in gingerbread, curry sauce, sage dressing, chili beans, etc.

The amount of seasoning which should be used varies with the different spices. Unless a tested recipe is being followed, spices should be used sparingly until the desired amount has been determined. About one-fourth (¼) teaspoon spice per pound of meat or pint of sauce, soups or gravies is usually adequate, a lesser amount of very hot or strong flavored spices such as cayenne pepper should be used.

Spices and herbs are available in whole or ground form. Ground spices release their flavors quickly and can be used on foods which require a short

cooking time. Whole spices are used for marinating and foods which require a longer cooking time. It is usually best to put whole spices in a cloth bag for easy removal when the desired flavor has been obtained. This avoids large pieces of spice being left in the finished product. Some spices should be added in the early stages of food preparation, while others are best when added near the end, just before serving.

Spices and herbs have little or no nutritive value. Herbs are obtained from leaves of plants such as sage, dill, parsley, etc. Spices are obtained from bark roots, seeds and berries such as cinnamon, cloves, ginger and pepper.

Buy spices from a good quality jobber or supply house. To judge quality, check strength, flavor and color. Spice should have a rich, fresh color, particularly important in the herbs and paprika. Bring the product slowly up to the nostrils - the pungence should rise up to meet you. Some spices are nonaromatic, such as the seeds: mustard, sesame and poppy.

Beware of imitation spices and remember that you are getting only what you pay for. These products are sprayed with oil of the spice on a large amount of carrier, which might be buckwheat, cottonseed hulls or other waste grains. When using an imitation you are required to use more, as compared to real spices. Real spices go further and superior flavor is gained.

Spices should be stored in a cool, dry place. Heat robs flavor and dampness will cake them. Containers should always be tightly closed after each use, to prevent the volatile oils from being evaporated and infestation by insects.

Under good conditions, spices will retain flavor and aroma for a long period. Whole spices will keep longer than ground spices. Herbs tend to lose flavor faster than spices like pepper, ginger, cinnamon and cloves. No seasonings should be retained after one year storage, according to spice salesmen.

Dehydrated vegetable seasonings can save time and labor. These products include: various forms of onions, garlic, sweet peppers, celery, mint, parsley and mixed vegetables. When a recipe calls for any of these vegetables, the flakes can usually be used and most of them will re-hydrate in five to twenty minutes.

Salt is an indispensable seasoning. Much of the salt we use is the fine grained variety that contains a harmless chemical to prevent caking, as a result of absorption of moisture from the air. One percent potassium iodine is sometimes added to eliminate body iodine deficiencies. Salt has many uses, one of which is to increase the palatability of food. It is also used in curing meats and fish, in making pickles, butter and cheese. When used properly, it brings out the flavor of the food.

PRINCIPLES OF MENU MAKING
From the book, "Menu Making"
by J. O. Dahl

There is a good opportunity for success ahead of the man who develops skill in making menus because commercial food service has become Big Business.

Success in selling food is based on the very same principles which control success in all forms of merchandising. Its secret proved over and over again in every type of industry, is simply this: "The way to make money is to give people what they want, when they want it and at the price they are willing to pay."

Factors that determine menu making policies:

1. Type of customers - Your patrons set the pace - what type you must please.
2. Location - What type of food would people eat in your location.
3. Hours of service - Will you serve breakfast, lunch and dinner.
4. Type of facility - Sandwich shop or full size scale.
5. Capacity, condition and versatility of kitchen equipment - Equipment is a prime factor in a cafeteria working smoothly.
6. Skill and capability of preparation crew - Plan to the ability of the crew. Distribute the preparation tasks. Plan food so that everything doesn't need a lot of preparation.
7. Adequacy of dining room service equipment - Plan the kitchen to fit the size of the dining room.
8. Skill and experience of food service crew - The type of skill you have will mean a lot in the type of food you can serve.

9. Costs and profits - The more people you serve the more varities you can offer resulting in more sales volume.

Tips to Menu Makers

1. Keep posted as to foods available at various seasons. Use "in season" foods as much as possible.
2. Use up perishable foods first.
3. Vary the method of preparation. For example, beef may be roasted, pot roasted, broiled, ground for meat loaf, sliced for a cold plate, stewed with vegetables, made into casserole dishes or meat pies, or pounded to break down tough tissue as in Swiss steak.
4. Build your menus around main dishes.

There are seven major considerations which the menu writer should have in mind when he actually sits down to do the work.

1. The refrigerator - Don't have too much stock on hand. Check carefully what is on hand to overcome loss of money through spoilage; inferior taste because of overlong storage; ultimate overloading of the menu with leftover items.
2. The market - Should know what is available in the markets or at least with range of easy transportation and the prices of these items. It would be a good policy to make each day's main items a week in advance, with soups, entrees, salads and desserts, with space left blank to fill in dishes with leftovers.
3. The calendar - Some menus have nothing but meat, potatoes and pies. Some offer heavy soups, stews, roasts and rich desserts the year around with no deviation for summer months when appetites need a bit of coaxing with cold drinks, crisp salads and light desserts. Any tendency toward a static, unchanging menu throughout the year

can prove disastrous and result in considerable loss of patronage and waste. There are great profits in fruits, vegetables and salad entrees for summer. Sandwich plates, cold cuts and jellied soups are popular and have a low food cost.

4. The clock - Time of day should have a bearing upon the selection of the menu making.
5. The neighborhood - 90 percent of luncheon customers will come from no more than five minutes walking distance.
6. The kitchen - Take into consideration the preparation staff. The payroll costs will have to be watched. In setting up menus it is important to distribute the work loads on the crew.
7. Appearance of food - Eye appeal is very important as we have discussed in the last chapter.

The menu planning group should consist of more than one selection - three to five when possible.

Entree Selections - with appetizing phrases:

Fish

Mountain Brook Rainbow Trout, saute, with eggplant

Baked Individual Flounder, drawn butter, cole slaw

Baked Boston Mackerel, tomatoes, creamy whipped potatoes

Swordfish Steak, saute, drawn butter, au gratin potatoes

Breaded Silver Smelts, chili sauce, shoestring potatoes

Poached Supreme of Lake Trout, sauce Hollandaise, parsley potatoes

Beef

Broiled Chopped Beef Steak, Bordelaise sauce, French fried potatoes

Braised Short Ribs of Beef, baked tomato, rissole potatoes

American Beef Stew and fresh vegetables, Parisienne potatoes

Grilled Beef Tenderloin Steak with mushrooms, tomato slices, minute potatoes

Braised Beef Tenderloin, mushroom sauce, parslied potatoes

Roast Top Sirloin of Beef with natural gravy and glazed onions

Braised Top Sirloin of Beef, Sauerbraten, with potato dumplings

Yankee Pot Roast with fluffy dumplings, mushrooms and onions

Sizzling Hamburger Steak, French fried potatoes, tomatoes and gherkins

Charcoal Broiled Steak Sandwich with sliced tomato and pepper rings

Chopped Beef Tenderloin from the grill, French fried potatoes

Veal

Baked Breast of Veal, mushroom sauce and mixed vegetables

Breaded Veal Chop with fried egg and garden peas

Veal Fricassee with mushrooms and golden bantam corn

Broiled Veal Chop, asparagus tips, julienne potatoes

Veal Cutlet, saute, fried egg and string beans

Roast Stuffed Milkfed Breast of Veal, pan gravy, shoestring potatoes

Milkfed Veal Steak Saute, new asparagus, olivette potatoes

Braised Loin of Milkfed Veal, sliced tomato and roast potatoes

Pan Fried Calf's Liver, sliced mushrooms, buttered noodles

Lamb

French Lamb Stew with new spring vegetables

Broiled Loin Lamb Chops, new peas, home fried potatoes, mint jelly

Broiled Lamb Steak, currant jelly, O'Brien Potatoes, new peas

Grilled English Lamb Chop, mushrooms and select bacon

Roast Spring Lamb Shoulder, mint jelly, string beans, roast potatoes

Irish Spring Lamb Stew with dumplings, mixed green vegetables

Baked Leg of Spring Lamb, mint jelly, au gratin potatoes

Baked Shoulder of Spring Lamb, buttered carrots, white Bretonne beans

Pork and Ham

Baked Maryland Ham, raisin sauce, roast potatoes and new peas

Grilled Virginia Ham Steak, Hawaiian pineapple slice, candied yams

Broiled Pork Tenderloin, special crabapple, jullienne potatoes

Broiled Canadian Bacon with spinach, glazed apples

Smoked Loin of Eastern Pork with lentils

Breaded Pork Chops with Spanish sauce, browned potatoes, string beans

Baked Sugar Cured Ham, Champagne sauce, Idaho potatoes with melted butter

Grilled Canadian Bacon with country style corn fritters and sliced tomato

Roast Fresh Ham, string beans, O'Brien potatoes, baked apple

Broiled Pork Chops, Brussel sprouts, buttery mashed potatoes

Poultry and Game

Roast Young Tom Turkey with savory dressing, cranberries, giblet sauce

Scalloped Turkey a La King with wine sauce and steamed Texas rice

Milkfed Chicken with mushrooms, fried in butter

Broiled Half Chicken, fresh peas, chateau potato

Roast Long Island Duckling, spiced stuffing, applesauce, paprika potatoes

Casserole of Curried Chicken with baked white rice, new garden peas

Disjointed Milkfed Chicken Saute, pearl onions, pan gravy

Chestnut Stuffed Roast Turkey, cranberry sauce, candied yams

The vegetable offerings should be relatively limited but they should always be of good quality and well prepared. If the variety is limited, much more careful preparation is possible. Menu listings of vegetables are important, as a few appetizing-sounding adjectives will help to increase their sale. There are many ways of preparing Irish potatoes and even more words to enhance their appeal to the appetite. The following list has been taken from menus of successful restaurants:

Whipped	Long Branch	Steamed
Parsley	Minute	Au Gratin
Rissole	Pan Roasted	French Fried
Browned	Duchess	Delmonico
Baked	Riced	Julienne
Paprika	Creamy Whipped	O'Brien
Bermuda	Buttered	Cottage Fried
Parsienne	Roast	Snowflake
Grilled	Saute	Fluffy
Shoestring	Lyonnaise	Chateau

Sweet Potatoes may be listed as:

Candied	Sugared	Honeyed	Boulangere
Baked	Pan Fried	Roasted	Grilled
Glazed	Browned	Saute	Whipped

Descriptive words for other vegetables are:

Fresh New Peas	Pearl Rice
Garden Peas	Stewed Texas Rice
Baked White Rice	Pilaf of Rice
Stewed Tomatoes	Baked Eggplant
Grilled Tomatoes	Broiled Eggplant
Baked Okra	Asparagus Spears
Asparagus Tips	Baked Squash
Sunripe Tomatoes	Diced Celery
Tomato Wedges	White Brettone Beans
Tomato Slices	Butter sauce
Buttered Carrots	Golden Bantam Corn
Diced Carrots	Broccoli Parmesan
French Fried Onions	Creamed White Turnips
Glazed Onions	Creamed Parsnips
Leaf Spinach	Cauliflower au gratin
Leaf Spinach in Butter	Cauliflower Hollandaise
French Fried Zucchini	Garden Fresh Kale

Puddings:

Creamy Rice Pudding with Raspberries

Tapioca Pudding, Strawberry Sauce

Golden Custard Pudding, Hawaiian Sauce

Chocolate Bavarian Cream, Vanilla Sauce

Strawberry Blanc Mange, Whipped Cream

Carmel Custard Pudding, Raisin Sauce

Orange Chiffon Pudding, Pecan Wafers

Cinnamon Bread Pudding with Fudge Topping

Chocolate Walnut Pudding, Whipped Cream

Apple Brown Betty with Lemon Sauce

Beverages - "Dressed Up"

Pot of Coffee	Coffee Expresso
Demi-Tasse	Sanka
Postum	Buttermilk or Yogurt
Chocolate or Cocoa with whipped cream	Individual Bottle of Grade A Milk
Tea with Lemon or Cream	Homogenized Vitamin A Milk
English Breakfast, Oolong, Ceylon or Orange Pekoe Tea	Malt Milk
	Ovaltine
	Sweet Cider
Gingerale	Cherry Cider
Cola Beverages	

Breakfast Suggestions (that often appear):

Breakfast #1 - Juice, toast, coffee or tea

Breadfast #2 - Juice or cereal, two eggs, toast, rolls or muffins, tea or coffee

Breakfast #3 - Juice or cereal, one egg with ham, bacon or sausage, toast rolls or muffin, coffee or tea

Breakfast #4 - Juice or cereal, two eggs with ham, bacon or sausage, toast, rolls or muffins, coffee or tea

Breakfast #5 - Juice or cereal, hot cakes or muffins, coffee or tea

The above selections illustrate the saturation point in lack of imagination.

TECHNIQUES FOR BEEF COOKERY

The terms roasting and baking refer to cooking uncovered in the oven with little or no added liquid. Roasted beef and baked beef are cooked by the same process, except that roasting is usually applied to meat cookery.

Meat to be roasted is usually placed fat side up in a shallow roasting pan that most nearly approximates the size of the roast. The roast should not be covered. A preheated oven is preferred so that the initial application of heat will aid in sealing in the juices.

Cooking meats at low temperatures instead of high temperatures results in: (1) a more tender product, (2) a more flavorful and juicier product, (3) less shrinkage, and (4) greater yields, because of the ease of carving. There is less watching of the meat during cooking, less cleaning afterward, since there is no burning on pans and equipment, and less fuel is consumed when constant low temperatures are used.

The old method of starting a roast at a high temperature to sear the meat and then reducing the temperature has been corrected. It has been found that constant temperature produces the best product if the oven is properly preheated. There are minor exceptions to this rule.

The fat content of the meat will determine whether additional fats or oils are necessary to prevent burning. Extremely lean cuts are sometimes larded to permit proper cooking and to give additional flavor. (Larding is insertion of thin strips of salt pork along surface of meat.)

Roasts are sometimes seasoned with spices, herbs, salt, pepper and minute slivers of garlic. Meats are usually salted on the fat side as excesses of salt tend to draw the moisture out on exposed or very lean

surfaces, making the cooked meat dry.

A mirpoix consisting of carrots, onions and celery is usually added to meat, either at the beginning or during the roasting period, depending on the length of cooking time. Fresh vegetables must be used in the mirpoix to obtain good gravy. Each gravy should be derived from the meat with which is is associated. Roast beef is generally served with natural gravy called "au jus".

Roasting temperatures vary from 250° to 375°, although there may be exceptions. Large cuts of meat, such as steamship rounds weighing from 50 to 75 pounds, are roasted for longer periods at extremely low temperatures. A 50 lb. steamship round may cook approximately six hours at 300° F. for a rare roast.

Meats that are boned and rolled often require longer cooking time than meats with the bone in. Meats placed in the oven fate side up are, in some measure, self-basting or moistened by their own fat. Further occasional basting may be necessary to prevent dryness.

The back or rear of the oven is usually slightly hotter than the front because some of the heat escapes through the oven door. It is sometimes necessary to change the position of the meat during the roasting period to insure uniform cooking.

The degree of doneness of meat influences shrinkage. As the doneness is increased the shrinkage is increased by extraction of moisture. Pork must be well done to kill the trichina parasite, but unduly overcooking it results in a dried out product with a high degree of shrinkage. When cooked to the correct degree of doneness, roasts are juicier, give more flavor and yield.

Degree of doneness may be determined by (1) timeweight ratio, (2) in-

sertion of needles, (3) applying light pressure with the fingers, (4) meat thermometer.

In the time weight ratio, a specific number of minutes time is allowed for each pound of meat.

The meat should not be pierced by heavy forks or tested constantly as these procedures result in the bleeding and loss of moisture.

A roast may sometimes feel undercooked, although it is actually overcooked, because of a peculiar spongy quality occasionally found in meat. The characteristics of different times, as well as the human trait or error, have encouraged the search for a more accurate means of determining doneness.

When properly used, a meat thermometer that registers the internal temperature of the meat is the most accurate means of determining doneness. The thermometer should be inserted in the thickest portion of the meat away from bone or fat pockets.

Heavy duty, good quality meat thermometers are available at moderate cost from food service equipment supply houses. There thermometers have visual indicators that show the exact temperature for different meats at varying degrees of doneness. The use of a meat thermometer also makes possible greater utilization of unskilled help in the kitchen. A new method for roasting meat is the use of thermo-pins. This conducts heat inside the meat and the roast cooks inside and outside causing less shrinkage and requiring less cooking.

Every cook should know how to manually test meats successfully and should gain this experience as quickly as possible, but the proven success of the use of meat thermometers should not be overlooked.

The internal heat of a roast will cause it to continue to cook even after it has been removed from the oven. This must be taken into consider-

ation, particularily when planning rare roasts. Roast meat, therefore, should always be removed from the oven before it has reached the desired temperature.

All roasts should stand for at least a half hour before carving. This releases the heat pressure and the juices will be more evenly distributed throughout the meat. Rare beef may appear grey or well done looking if it is sliced before the red juices are redistributed.

All meats should be sliced to order when possible. This is a must for roast beef if it is to retain its flavorful juices and red color.

Meats to be roasted are: Ribs of beef, Leg of lamb, Sirloin of beef, Shoulder of lamb, Top Round and Rump of beef, Ham, fresh or smoked, Rack of lamb, Loin of pork and Pork butt.

Broiling is a popular method of dry heat cookery which is done by direct heat over hot coals, such as charcoal or briquets, or under gas flame or electric units. Some electric units have heating elements on the sides.

The direct heat has a searing effect which seals the surface of the meat on the exposed side and aids in retaining the flavorful juices. The intense heat forces the blood in the meat away from the source of heat. The meat should be turned during the cooking process so that both sides will be equally done.

Only tender cuts are used for broiling. All broiling should be done to order when possible and the meat cooked to the degree of doneness specified by the guest.

For banquets or large parties, meat is often broiled a few minutes ahead to facilitate service. The meat is in a pan and reserved until service time when it is finally in the oven or, preferably, under the broiler.

Care must be taken not to overcook foods in the broiler as they lose natural flavors, juices and nutritive value.

Poultry and fish are also popular broiler items usually cooked well done, but overcooking will make them dry.

The broiler should be preheated before cooking time. If using gas, the brouler should be heated until all the ceramics are radiating heat. If using electricity, the reflector plates should be radiating full heat. Charcoal or briquets should be burned to glowing coals.

The intense heat of the broiler rack or grill rack will help to prevent sticking. Nearness of the broiler rack to the heat determines the cooking time of the product. The proper location of the rack can be learned only through experience. It depends upon the size and thickness of the piece to be cooked, the amount of other foods on the broiler also demanding heat and the doneness desired.

Most foods are brushed with or dipped in unseasoned oil or other suitable fat before being placed on the rack. The oil prevents sticking and affords protection to the meat. It aids in retarding drying and cracking and helps to give the surface of the product good color.

Foods of less than moderate fat are not desirable for broiling since they tend to dry out. When very lean foods are used, fat supplement is advisable.

At one time broiling and grilling were practically synomous. Today broiling is the acceptable term for cooking by direct heat, regardless of direction of its source.

The method of testing the degree of doneness by light pressure with the fingers, is the only practical method now in use for broiling. This method is used exclusively and must be mastered in order to operate a broiler

successfully.

Grilling means cooking on a solid grill while the product is not directly exposed to open heat. This is a form of pan broiling which uses the same type of heat. Some operations list items from the grill, but are usually referring to broiled foods.